

DEPARTMENT OF THE ARMY PERMIT EVALUATION  
AND DECISION DOCUMENT

Reference: Inskeep, Jerry

Ref: 199900663

1.0. Introduction. This is a Department of the Army (DA) permit decision document.

1.1. Contents. This document concerns the issuance of a DA permit by the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) under Section 10 of the Rivers and Harbors Act. This document constitutes the Statement of Findings, the Finding of no Significant Impact, and the Environmental Assessment for the work described in the attached Public Notice.

1.2. Decision. My decision is to approve a permit for this work with special conditions.

2. Project Information.

2.1. Location. Horseshoe Bay on the northwestern side of San Juan Island, San Juan County, Washington. Latitude: 48-35-18.5000; Longitude: 123-9-58.0003; Quarter: SW quarter of NW quarter of Section 26; Township 36 North; Range 4 West. See Attachment A: Vicinity Map.

2.2. Existing Site Conditions. The project is located at the western corner of Horseshoe Bay, a small embayment located off the southern end of Mosquito Pass, a narrow passage between the northwestern shore of San Juan Island and the eastern shore of Henry Island. Horseshoe Bay is located on the southern side of the narrow channel from Mosquito Pass into the Westcott Bay and Garrison Bay complex. Westcott and Garrison Bays are popular recreational boating locations both for residents and for tourists visiting San Juan Island. San Juan County Park provides a public boat launch on the northwestern end of San Juan Island; the Roche Harbor Marina and the Snug Harbor Resort and Marina also have boat launch facilities available for a fee. Seasonal and permanent vessel moorage is available at Roche Harbor, Snug Harbor Marina, and the Port of Friday Harbor. The English Camp unit of the San Juan Island National Historic Park is located along the eastern shore of Garrison Bay and is a popular recreational destination with vessel anchorage and a dingy dock for boat visitors to access the park. There are numerous piers and docks in Garrison Bay. Westcott Bay has almost no piers or docks, with the notable exception of the dock at the Westcott Bay Sea Farm.

Tracts A and B (Lots 88 and 89) and Lots 49, 50, 67, 68, 69, 70, 71, and Lot 72 are all part of the Agreement Regarding Joint-Use Dock (transmitted to Corps 6 July 2005) which restricts these and future property owners from constructing any over-water structures on these properties, other than the pier jointly proposed for Lot 72. Mr. Jerry Inskeep owns Tracts A and B (lots 88 and 89) and Lot 50 along the western shoreline of Mosquito Pass, and Lots 67, 68, 69, and Lot 72 along Horseshoe Bay. Other members of the Inskeep family (Ms. Sarah Inskeep Meling, Mr. John Inskeep, and Ms. Martha Inskeep Brandt,) own Lots 70 and 71 along Horseshoe Bay and Lot 49 along Mosquito Pass. This document refers to these owners as the 'joint users' and as the 'applicants'.

The uplands and shoreline of Horseshoe Bay is almost completely undeveloped; a single log cabin (constructed prior to 1954 based on Section 26 of the USGS Roche Harbor quad map) lies along the shoreline to the east of the project site on Lot 69. Lots 67 through 72 include the gravel beach that forms the landward edge of Horseshoe Bay. From the beach, the tidelands slope seaward gradually. See Attachment B: 1995 Ecology Shoreline Aerial. Water depths within Horseshoe Bay are relatively shallow, generally less than nine feet at Mean Lower Low Water (MLLW), extending north out to the main channel between Horseshoe Bay and White Point, both on San Juan Island. The main channel is approximately 21 feet deep (MLLW) and approximately 507 feet wide from shore to shore at MLLW. There are no piers in Horseshoe Bay or along the opposite shoreline of White Point. Scattered mooring buoys are sporadically present within Horseshoe Bay; their number varies, generally between two and four buoys have been present at any one time. See Attachment C: Site Photos of Shoreline, 29 June 2003.

The controlling depth of the channel between White Point to the north and Delacombe Point to the south is approximately three fathoms, three feet (or 21 feet) deep; this portion is approximately 220 feet wide at Mean Lower Low Water (MLLW) and is referred to as the “main channel” within this document as it corresponds to the portion of the waterway utilized by vessels transiting into and out of Westcott and Garrison Bays. The main channel is relatively confined as it passes between White Point and Delacombe Point. Approximately 75 to 100 feet separate the main channel from the shore along the northern side due to a constriction formed by rocks off of White Point; approximately 75 to 90 feet of shallow water separate the main channel from the tip of Delacombe Point along the southern side. Water depths within the majority of Horseshoe Bay are approximately one to one and a half fathoms (6 to 9 feet) (based on 5<sup>th</sup> edition, December 2002 NOAA chart #18433, “Haro Strait, Middle Bank to Stuart Island”). See Attachment D: 2002 NOAA Chart. Local mariners report a sand bar located on the Mosquito Bay (northwestern side) of Delacombe Point, outside of the southern edge of the main channel.

The tidal range in this area (based on tidal datum records at Roche Harbor) varies between Mean Higher High Water (MHHW) elevations of +7.60 feet and extreme low tides of approximately –3.8 feet, relative to 0.00 feet MLLW; extreme high tides occur to approximately +11.00 feet. Currents within the main channel are naturally greatest as the tide shifts between slack and ebbing tides (outgoing tide) and between slack and flooding tides (incoming tides).

The closest available current information is from the open, deeper water of Haro Strait, at a station west of Kellett Bluff (the southern tip of Henry Island). During periods of the greatest tides (new and full moons), maximum current speeds corrected for Kellett Bluff are approximately 2.7 to 3.04 knots on the flooding tide and approximately 3.9 to 4.3 knots on the ebbing tide, with the strongest currents recorded during the months of June, July, and December (Table 2 in International Marine, 2004 Current Tables for the Pacific Coast of North America and Asia, Admiralty Inlet data, corrected for ‘west of Kellett Bluff’). However, currents recorded at this location are not directly reflective of conditions experienced within interior waterways and constrictions like the channel between White Point and Delacombe Point. Currents within such constricted passages can be increased by funneling or decreased by the degree of bottom friction; currents are faster during both ebbing and flooding tides and can vary with the magnitude of the tidal exchange, and particularly with the direction and duration of local winds. Local mariners report that currents of 1.5 to 2 knots within the channel (Capt. P. Randal,

personal communication, 24 June 2005).

**2.3. Description of the Proposed Work.** The proposed work consists of the installation of a new grated aluminum pier (6 x 120 ft), grated ramp (4 x 48 ft), angle float (16 x 8 ft), a grated main float (8 x 90 ft), and a grated end float (8 x 40 ft); the proposed work would also include installation of a float anchoring system of helix anchors and Seaflex rodes. Four pair of full-length steel piles situated 40 feet apart would support the pier structure and one steel pile will support the end of the angle float which functions as the gangway landing float (9 total steel pilings). The steel piles would be driven in using a vibratory pile driver with no proofing. The fixed pier will be elevated to +15 feet MLLW and is oriented south-southwest to north-northeast from the shore. The float will remain elevated approximately 1.2 feet above the substrate during extreme low tides (-3.8 feet MLLW) by the Seaflex elastic rodes system attached to helix anchors. The pier and ramp will have 100% grating with 34% open space; the angle float and the two sections of main floats will have a 2-foot wide strip of fiberglass grating down the middle covering 25% of the float surface with 68% open space. The float tubs will be located under the solid portion of the float. See Attachment E: Plan View/Elevation.

The proposed pier has been specifically designed as a joint-use structure to serve the 10 lots and 2,200 linear feet of shoreline owned by the applicants. Tracts A and B and Lots 49, 50, 67, 68, 69, 70, 71, and Lot 72 are part of the Agreement Regarding Joint-Use Dock. See Attachment F: Joint Use Properties and Attachment G: Agreement Regarding Joint Use. Section 3 of the Agreement expressly prohibits the "Joint Users" (Mr. Jerry Inskeep, Ms. Martha Inskeep Brandt, Ms. Sarah Inskeep Meling, and Mr. John Inskeep), as well as their "heirs, successors and assigns" from building any additional docks or over-water structures on Tracts A and B and Lots 49, 50, 67, 68, 69, 70, 71, and Lot 72 of the Plat of Yacht Haven, other than the proposed pier on Lot 72. Section 14 of the Agreement specifies that the Joint Use Agreement be recorded against the property titles for these tracts and that all covenants contained within the Agreement shall run with the land, thus binding future property owners to the Agreement and the prohibition of other piers or over-water structures along this shoreline covered by the Agreement.

The lengths of the floats were designed to serve all ten lots of the Joint Use Agreement and the vessels owned by those lot owners. The approximately 240 lineal feet of docking space on the floats is intended to provide approximately 24 feet of docking space for each lot owner; moorage would most commonly occur during six or seven months of the year, concentrated mainly during summer. The Grady White fishing boat currently owned by the applicants is 31 feet in length, 11 feet in width, with 19 inches draft.

**2.4. Jurisdiction.** The Corps has regulatory jurisdiction under Section 10 of the Rivers and Harbors Act of 1899. A completed JD form dated December 8, 2004, is in the permit file.

**2.5. Purpose.** As stated on the 19 May 1999 JARPA, the purpose of the project is to "provide recreational access for these land owners of Horseshoe Bay". Subsequent discussions with the applicants indicate that the project purpose is to provide year-round moorage and access to the water sufficient to accommodate approximately six to ten vessels associated with the ten properties covered within the Joint Use Agreement and that this access to the water and their vessels would be unrestricted by tides and water depths.

### 3. Public Notification Issues.

3.1. Public Notice Date. A Public Notice for this proposal was circulated on 22 August 2002. The expiration date for comments was 23 September 2002.

On 24 June 2003, the applicants made minor modifications to the footprint and location of the project to avoid eelgrass (pier moved 16 feet to the east at a slightly wider angle from shore, T-shaped end float changed to L-shaped end float) from that originally submitted to the Corps and subsequently circulated in the 2002 Public Notice. See Attachment H: Composite Drawing of Change in Location and Alignment. Similarly, in April 2004, the applicants further reduced the footprint of the pier to reduce shading effects and impacts to macroalgae. Modifications from the original design included: narrowing the width of the pier and ramp by 2 feet, lengthening the ramp by 6 feet to place the floats in deeper water, shortening the length of the angled float by 6 feet to offset lengthening of the ramp, modifying the landward structure from a 'concrete support' to two, 12 inch diameter steel piling, and modifying the anchoring system from stake piles and anchor ropes to helix anchors and Seaflex rodes. See Attachment E: Plan View/Elevation. Finally, on 6 May 2005, the applicant substituted steel pilings at the +9 to +10 foot MLLW line for the landward concrete support originally proposed in the public notice. This modification was made to protect potential cultural resources on the property and to reduce the footprint of the pier by eliminating the use of concrete along the shoreline. These modifications reduced the impacts of the project on the aquatic environment and were thus deemed by the Corps to be sufficiently minor to not warrant publishing a second public notice.

3.1. Agency, Public, and Tribal Comments to the Public Notice. The Corps received responses specifically as a result of the Public Notice from one federal agency, three local government entities, and 59 members of the general public. A total of 63 parties thus submitted comments to the Public Notice. Included in the 'general public' category were one non-profit group ('Friends of the San Juans') and its legal representative (Smith & Lowney, L.L.C), as well as 58 individuals who expressed concerns about the proposal, 45 of whom sent in or were signatories to the same comment letter drafted by the group 'Friends of the San Juans'. With the exception of the federal agency that indicated "no comment" as their response, all comments received as a result of the public notice were either explicitly against the proposed project or expressed concerns and urged careful analysis by the Corps. Subsequent to the Public Notice, the Corps received additional comments from some members of the public, from the group 'Friends of the San Juans', and from the applicant, including three letters commenting on navigation issues provided by licensed Coast Guard masters, provided to the Corps by the applicant. See Attachment I: List of Individuals Who Submitted Comments.

3.2.1. Federal Agencies. No comments were received from the Environmental Protection Agency (EPA) or from the NOAA Fisheries Service (NOAA Fisheries) in response to the Public Notice. Additional analysis of Endangered Species issues relevant to NOAA Fisheries can be found in section (6.1.7.) for Endangered Species Act (ESA) Section 7 consultation.

3.2.1.1. US Fish and Wildlife Service (USFWS). The USFWS stated via fax dated 29 August 2002, "no comment, no ESA" on the above referenced Public Notice. Additional analysis of

Endangered Species issues relevant to USFWS can be found in section (6.1.7.) for Endangered Species Act Section 7 consultation.

**DISTRICT ENGINEER'S (DE) RESPONSE:** Comment from USFWS noted. No additional action or response is necessary.

### 3.2.2. State Agencies.

3.2.2.1. Washington Department of Ecology (Ecology). No comments were received from Ecology in response to the Public Notice. San Juan County had granted the applicant a Conditional Use Permit on 26 June 1998; a Shoreline Substantial Development Permit was filed with Ecology on 14 July 1999 pursuant to a Shorelines Hearings Board decision (see 3.2.3 below). A waiver of Ecology's consistency determination relative to the Washington State Coastal Zone Management Program and Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, is assumed due to expiration of the 180-day deadline for agency response from the date of Public Notice (22 August 2002).

3.2.2.2. Washington Department of Fish and Wildlife (WDFW). No comments were received from WDFW in response to the Public Notice. WDFW originally issued a Hydraulic Project Approval (HPA) for the proposed project on 9 September 1997, which was subsequently modified on 21 February 2001, on 23 December 2002, and on 16 July 2003. The 16 July 2003 modification (ST-C2498-06) extended expiration of the HPA for this project until December 31, 2005 and modified conditions in the original HPA. The July 2003 HPA included (among others): restrictions on allowable work windows for work below the ordinary high water line, width restrictions on the pier and floats, requirements for light permeable (minimum 60% open space) grating on the floats, maintenance of a 10-foot buffer between floats and eelgrass habitat, marking of existing eelgrass habitat in the immediate project vicinity prior to construction, using steel pilings, and not allowing grounding of any portion of the float system.

**DISTRICT ENGINEER'S (DE) RESPONSE:** Comments from WDFW noted, no additional action or response is necessary. Several of the conditions in the HPA were determined during the impact evaluation on fish and wildlife to be necessary as a condition to this permit. See special condition 'd' in Section 7 below.

3.2.3. Local Government. San Juan County issued a Determination of Non-Significance (DNS) for this project under the State Environmental Policy Act (SEPA). A number of citizens wrote letters of opposition to the proposal. However, no appeals of the DNS were filed.

A public hearing was held on the applicant's Shoreline Substantial Development Permit (No. HE 32-97 (97SJ009)) on 14 November 1997. The Hearing Examiner denied the Shoreline Substantial Development Permit on 15 December 1997. The applicant appealed the denial of the permit to the San Juan County Board of County Commissioners on 14 April 1998. A public hearing on the appeal was held on 19 May 1998. The Board of County Commissioners denied the appeal of the Hearing Examiner's decision on 2 June 1997. The applicant then appealed the Board's decision to deny the appeal and another public hearing was held on 2 December 1998. A public contested case hearing (No. 98-033) was held before the Washington State Shorelines

Hearings Board on 24 February 1999. The State Shorelines Hearing Board ultimately granted the applicant their appeal and remanded the matter back to the County for issuance of a Shoreline Substantial Development Permit on 16 April 1999. The permit was then granted by the County and filed with Ecology on 14 July 1999.

Three aspects of San Juan County government commented on the 2002 Public Notice. Unless specifically indicated otherwise, the comments are condensed and summarized to represent the topics covered in a given comment letter.

**3.2.3.1. San Juan County Conservation District.** The San Juan County Conservation District, in their role as the Lead Entity Coordinator for WRIA 2 under the Salmon Recovery Funding Board, provided comments in a 23 September 2002 letter. In that capacity, the Conservation District expressed their “unequivocal opposition” to the proposed pier due primarily to its potential to impact salmon habitat and particularly the shoreline and nearshore environments and related forage fish spawning and eelgrass beds; they requested a public hearing be held.

**DE RESPONSE:** Comments provided by the San Juan County Conservation District regarding the potential for general environmental impacts, as well as for specific impacts to forage fish, eelgrass, and nearshore salmon habitat were consistent in tone and topic with public comments described and are responded to in detail below. Please see Section 3.2.4 for DE response. See Section 3.3 regarding the reasons for not holding a public hearing. No additional action or response is necessary.

**3.2.3.2. San Juan County Public Works Department.** The San Juan County Public Works Department, in their capacity to provide engineering review for public docks, provided comments in a 2 October 2002 letter (received after public notice expiration date of 23 September 2002). The Public Works Department expressed their opposition to the width, length, height, location, and relationship of the proposed pier to the channel used by local vessels and urged “careful analysis” of this permit by the Corps. Their comment letter expressed concerns regarding the impact of the proposal on small boat safety, access and activity in the passage (between White Point and Delacombe Point), the inappropriate use of public subtidal lands, and the private occupancy of a public waterway; they did not request a public hearing.

**DE RESPONSE:** Comments provided by the San Juan County Public Works Department regarding the nature and extent of the proposed pier, as well as regarding potential impacts to navigation and navigational safety were consistent in tone and topic with public comments described and are responded to in detail below. Please see Section 3.2.4 for DE response. No additional action or response is necessary.

**3.2.3.3. San Juan County Board of Commissioners.** The San Juan County Board of Commissioners, provided comments in a 16 October 2002, (received after public notice expiration date of 23 September 2002). The Board of County Commissioners expressed concerns regarding the environmental impacts to forage fish and eelgrass, as well as general concerns regarding navigation and joint use and requested “careful analysis” of information provided by the ‘Friends of the San Juans’ and the University of Washington’s Friday Harbor Labs; they also requested a public hearing be held and that the Corps conduct a site visit.

**DE RESPONSE:** Comments provided by the San Juan County Board of Commissioners regarding the potential for impacts to forage fish, eelgrass, and nearshore salmon habitat, as well as regarding potential impacts to navigation and navigational safety were consistent in tone and topic with public comments described and are responded to in detail below. Please see Section 3.2.4 for DE response. Please see Section 3.3 regarding requests for a public hearing. The Corps did conduct a site visit on 29 June 2003. No additional action or response is necessary.

3.2.4. General Public. The following section presents the main issues raised by individuals or organized groups in comment letters received in response to the Public Notice comment period and received unsolicited into the public record by interested parties both for and against this proposal. Included in the 'general public' category were one non-profit group ('Friends of the San Juans') and its legal representative (Smith & Lowney, L.L.C), as well as 58 individuals who expressed concerns about the proposal, 45 of whom sent in or were signatories to the same comment letter drafted by the group 'Friends of the San Juans'. Of the 45 individuals who signed the comment letter drafted by the group 'Friends of the San Juans', 18 reside on San Juan Island, 15 reside on Orcas Island, seven reside on Shaw Island, four reside on Lopez Island, one on Henry Island, one in California, and six individuals did not list their place of residence. All 13 of the other people who signed individually drafted comment letters reside on San Juan Island.

Unless specifically indicated otherwise, the comments are condensed and summarized to be representative of all comments received regarding a given topic. Comments received from the general public expressed concerns about the proposed pier due to its size and location in relation to affects on local navigation and environmental resources. These concerns centered on four main issues: 1) navigation impacts, 2) habitat-related impacts to eelgrass and forage fish, 3) aesthetic and precedent-setting impacts, and 4) indirect or cumulative effects of increasing the number of piers in the area.

3.2.4.1. Comments Regarding Navigation Experience. Six individuals with professional navigation experience expressed their opinions regarding the navigation impacts of the proposal; the applicant submitted the comments of three individuals with Coast Guard Master Licenses; one Washington State Ferry Captain submitted comments against the proposal. One pair of individuals who kayak the local waters submitted comments against the proposal and the comments of the owners of two local kayak companies were included in the packet of comments submitted by the group 'Friends of the San Juans' in response to the Public Notice.

The impact on local navigation into and out of the Westcott and Garrison Bay complex was a concern expressed by multiple local residents, as well as by the group 'Friends of the San Juans' and by the signatories to the group's comment letter. In summary, the comments and concerns centered around two main issues: 1) the extent to which the proposed structure would extend into the main navigation channel between White Point and Delacombe Point and thus impair navigation, and 2) the extent to which the proposed structure would interfere with mooring buoys or reduce the ability of hand-powered watercraft or small boats to utilize the protected waters and shoreline of Horseshoe Bay.

Multiple individuals recounted the popularity of the sheltered waters of the Westcott and Garrison Bay complex, particularly for boaters seeking to moor and then access the British Camp portion of San Juan Island National Park, as well as for boaters seeking to put out recreational crab pots. The group 'Friends of the San Juans' conducted a boater use survey which documented 107 boats (including four kayaks) passing through the channel within 90 minutes at the height of the boating season (Saturday, 1 September 2001); no indication was given in this use survey as to whether boats which entered and left during the survey period were counted when entering and when leaving.

Many individuals also commented on the narrowness of the main channel in this location and the speed at which vessels proceed through the area. The group 'Friends of the San Juans' identified the width of the main channel at its narrowest point as "less than 380 feet wide", with strong currents, and high volumes of two-way boat traffic. Numerous first-hand accounts of wakes being thrown up by large vessels and occasionally swamping smaller vessels were presented.

Two parties' submitted graphics created to illustrate the location of the proposed pier and floats relative to the main channel. The group 'Friends of the San Juans' prepared a graphic illustrating the proposed structure (computer generated) overlaid "to scale" on an oblique photo of the western portion of Horseshoe Bay apparently taken from a plane over the southern end of White Point; a resident of White Point also submitted a similar graphic overlaying the pier (also apparently computer generated) onto an oblique photo of Horseshoe Bay taken from the shoreline of White Point.

**APPLICANT'S RESPONSE:** The applicant responded to comments concerning navigation impact through their legal counsel (Mr. John Keegan of the law firm Davis, Wright, Tremaine LLP) on 3 January 2003. In response to the issue of the width of the main channel, Mr. Keegan cited a "U.S. Department of Interior Roche Harbor Quad Map" as showing the distance across the entrance channel to be "approximately 500 feet at its narrowest" and also cited the "San Juan County GIS map" showing the distance to be "540 feet at its narrowest as measured from the line of ordinary high tide". In response to the issue of diminishing the use of Horseshoe Bay through interference with kayakers and small boat operators, Mr. Keegan indicated that "the float for the Inskeep dock is between 80 and 100 feet from the Ordinary High Tide line" and due to the pier's elevation at +15 feet MLLW, the pier "should not be an obstacle for kayaks or small watercraft who wish to navigate in the shallow near shore areas. The dock will probably, more often than not, provide shelter for small craft facing difficult seas or winds". In response to the issue of interference with mooring buoys in Horseshoe Bay, Mr. Keegan replied that "the four buoys now present in Horseshoe Bay are not legally permitted", and as such, questioned the degree to which they were installed in compliance with WDFW requirements to minimize damage to the sea bottom. He also stated that "the potential for Horseshoe Bay to support legal mooring buoys is limited given the lack of water depth, and State regulatory requirements"; he further cited the State Shorelines Hearing Board Finding VII which stated that "mooring buoys are not a practical option" for Horseshoe Bay as multiple buoys would restrict navigation passage if an adequate turning radii of 130 to 175 feet is provided for each buoy.

**DE RESPONSE:** The Corps corroborated these accounts of the local navigational situation with experienced professionals unassociated with either the applicant or the opponents of the

proposal. The Corps specifically contacted two other professionals (one merchant marine master; one marine vessel assist company) with local experience specifically in navigating the waters of Westcott and Garrison Bays and sought their professional opinions regarding navigation impacts of the proposed pier. The Corps also contacted the U.S. Coast Guard 13<sup>th</sup> District Office of Private Aids to Navigation for their perspective on navigational issues associated with this proposal. The Corps contacted four local kayaking businesses (Crystal Seas Kayaking, Discovery Sea Kayak, SeaQuest Kayaks, and San Juan Safaris) to determine how hand-powered watercraft currently use the area and how that use could be affected by the proposal. Finally, three Corps personnel conducted a site visit by boat to Horseshoe Bay on 29 June 2003 to see the area first-hand and to verify site conditions, particularly those regarding navigation. Prior to the site visit, the applicant installed buoys marking the extent and location of the proposed structure.

Both the A-1 Vessel Assist Company and Mr. Pat Randal a merchant marine master with 35 years professional experience in this area, verified that the submitted accounts of speed, wakes, and the general difficulty in navigating into the Westcott and Garrison Bay complex were accurate. They both noted the high proportion of tourists and 'occasional' boaters who venture into these waters without much local experience and without due consultation of their navigation charts which detail hazards such as a sand bar off the northwestern tip of Delacombe Point and submerged rocks off the southern tip of White Point. They verified that additional navigation hazards are also encountered due to the short distance within which a vessel has to navigate the channel and then turn (upon exiting) into Mosquito Pass, the narrowness of the deep waters of the main channel, the wind-funneling action of high topography at Delacombe Point and on the southern tip of Henry Island, and the technical skills needed to make right-angle turns into the channel from Mosquito Pass particularly for vessels under sail. The vessel assist company indicated they have performed four to five vessel assist tows in Horseshoe Bay area in last two years, one to two assists off of White Point, and two assists off the sandbar at Delcombe Point, but that this situation was not appreciably worse than any other areas in San Juans. They cited underwater obstructions and the general unfamiliarity of most vessel operators with local conditions as contributing to the need for their assistance. They observed that most seasonal or occasional vessels operators do not carefully read their nautical charts, leading directly to their encounters with such underwater hazards. During our June 2003 site visit, Corps personnel similarly verified the number, variety of sizes, speeds, wakes, and general difficulties encountered while navigating through this area.

Thus, the Corps concludes that the public comments received regarding the frequency of local vessel traffic, rate of vessel speed, occurrence of vessel wakes, and the navigation difficulties of this area, are accurate.

From the graphics submitted by the public to illustrate their concern over the relative proximity of the proposed structure to the heavily used main navigation channel, it appeared that the proposed pier and floats would extend to the very outer edge, if not within, the main navigation channel and could thus easily interfere with safe navigation and public use of the waterway. However, in analyzing these graphics, the Corps noted that, although they purported to be "to scale", these graphics could not accurately represent the location, extent, or orientation of the proposed structure as they were based on photos taken at an oblique angle. Low-angle oblique

photos, such as those submitted by the public, provide a perspective view (rather than a vertical, top-down view) of the landscape. Because of the variable (and usually undocumented) angle of the camera relative to the ground, the scale of oblique photos diminishes from the foreground to the background in such a way as to prevent oblique photos from being used for accurate distance and angle measurement, or for the overlay of planimetric features such as the pier in question.

Consequently, the width of the navigation channel, as well as distances and proportions, cannot be accurately scaled on an oblique photo, and thus, scanned or drawn objects (such as the proposed pier) cannot be overlaid "to scale" onto an oblique photo. Therefore, the Corps determined that the graphics circulated by the public and submitted into the public record to illustrate potential navigation problems with the proposed pier could not accurately represent the width, orientation, or relative proximity of the proposed structure to the main navigation channel utilized by vessels exiting and entering the Westcott/Garrison Bay complex.

In order to determine the potential for the proposed structure to hinder navigation, the Corps needed to accurately determine the width of the main channel, as well as the relative proximity of the proposed structure in Horseshoe Bay to channel through the use of a scalable graphic created using an aerial photo taken at a vertical (straight down) angle. The Corps utilized the most recent available USGS orthographic aerial photo of the area (July 1990) as the base. Orthophotos act much like orthographic projection maps, with distortions due to photographic geometry and land elevation removed. This permits the accurate measurement of distances and angles. The Corps then utilized our Geographic Information System (GIS) to overlay at scale the orthographic aerial photo of the area with the channel configuration and water depths (at MLLW) from the NOAA Navigation Chart for the area (the NOAA Chart #18433, Haro Strait, Middle Bank to Stuart Island), 10-meter digital elevation data from USGS, a GIS parcel shape-file prepared by San Juan County illustrating property parcels, and the most recent permit application drawings (dated 3 and 7 May 2004) to illustrate the length, angle, and vertical elevation of the proposed pier and floats. By utilizing a vertical orthographic aerial photo, length, angle, vertical elevation, orientation and relative proximity of the proposed structure to the shoreline and the main navigation channel can be accurately portrayed to scale (Attachment J, Spatial Location Map). The landward location and shoreline elevation of the proposed pier were determined using the 'plan view' permit illustration provided by the applicant, according to the procedure outline in Attachment K, Documentation of GIS Procedures, 18 February 2005.

Based on this analysis, the Corps concluded that distance across the entrance channel is approximately 507 feet at MLLW, the controlling depth for navigation purposes is approximately three fathoms, three feet (or 21 feet) deep. This deeper portion of the channel is approximately 220 feet wide MLLW and corresponds to the 'main navigation channel', that portion of the waterway utilized by vessels transiting into and out of Westcott and Garrison Bays. This graphic (Attachment J) clearly illustrates that the proposed pier and floats would not extend out to the main navigation channel and in fact would not extend even to the outer edge of that portion of the waterway, as was erroneously portrayed on the graphics submitted by the public. This graphic similarly illustrates that vessels moored along the two floats in water depths of approximately 9 to 10 feet deep would be at least 150 to 200 feet from the southern edge of the main channel and thus would not obstruct the passage of vessels moving into and out of

Westcott and Garrison Bays; the range in distances is due to the southern curve to the main channel in the vicinity of the end of the proposed end float. Thus, this distance between the pier and its moored vessels and the navigable portion of the entrance channel precludes significant constrictions of vessel traffic due to the pier. The existing constriction of vessel traffic due to the number, frequency, and underwater hazards of the area would not change if the proposed structure were built.

The Corps further verified this conclusion by sending this graphic (Attachment J) to the U.S. Coast Guard 13<sup>th</sup> District Office of Private Aids to Navigation to solicit their perspective on whether the proposed structure would create or exacerbate navigation hazards in or around the entrance into the Westcott/Garrison Bay complex or within Horseshoe Bay. The U.S. Coast Guard did not raise any navigation hazard issues in their review of the proposal; rather, they indicated that in light of “the size, location, and make-up of this dock” they would “be directing the owner to install private marine aids to navigation, in the form of lighting, to mark the dock so as to ensure the safety of the boating public” (U.S. Coast Guard, 24 May 2005 email). The U.S. Coast Guard considered the fact that there are no other piers in Horseshoe Bay, the proposed height and length of the pier, and its joint-use purpose, in reaching this determination.

The distance between the end of the proposed structure and the main navigation channel (150 to 200 feet) would also allow hand-powered vessels to transit around the outer end of the floats and associated moored vessels, without being forced into the high-traffic portion of the channel. The elevation of the pier above the substrate (+15 feet) allows for a minimum of approximately 7.4 feet of clearance beneath the pier at MHHW (+7.6 feet), with increased clearance at lower tidal conditions. Kayakers desiring to maintain a paddling route parallel to the shoreline could utilize this clearance to pass under the pier during all but the highest tides of the year. If individual kayakers chose not to pass under the pier, or were unable to do so due to wakes or extreme high tide conditions, paddling around the outer end of the floats would be an inconvenience compared to existing conditions; however, the 150 to 200 feet between the end of the outer float and the outer edge of the main channel used by larger vessels would allow sufficient room for kayaks to pass around the pier (albeit with a cautious eye for boat wakes caused by vessels not obeying the local speed limit). The presence of the proposed pier and floats would not preclude kayakers from entering or utilizing the waters of Horseshoe Bay.

One of the four kayaking companies the Corps contacted (Crystal Seas) reiterated that they consider all piers to be a shoreline obstruction regardless of height or location, as they had previously indicated in a comment letter submitted within a package of comments from the group ‘Friends of the San Juans’; the Corps specifically contacted Crystal Seas because many of the other local kayaking companies indicated that Crystal Seas was the main company which regularly utilizes the waters of Westcott and Garrison Bays for their tours. The other three of the four kayak companies the Corps contacted indicated that 7.4 feet was easily sufficient clearance to allow passage beneath such a structure; these companies also indicated that they would not specifically avoid passing beneath the decking of a pier unless there were substrate hazards beneath the vessel or marine mammal or other wildlife which would be disturbed by their proximity. One of these companies indicated they routinely pass beneath such structures specifically to see birds which may be nesting in the stringers or invertebrates which may be attached to the pilings.

The Corps has regulatory oversight of the location and orientation of structures placed within navigable waterways. While local underwater conditions, coupled with the number and habits of vessels transiting this local area, does appear to indeed create situations which can be hazardous to navigation, the number, speed, and familiarity of vessel operators with their charts and with local conditions are not factors within the Corps regulatory authority. Impacts to local navigation from this proposal are limited due to the location of the pier in the western corner of Horseshoe Bay (rather than on the shoreline of Delcombe Point or off the eastern tip of the bay), the orientation of the longer float parallel to the western shoreline of the Bay (rather than jutting out into the bay), and U.S. Coast Guard requirements for installation of lighting on the pier to increase its visibility during adverse weather conditions (per U.S. Coast Guard, 24 May 2005 email).

The Corps concludes that the orientation and location of the proposed pier would not preclude the public's access to or use of navigable waters, does not constitute a hazard to navigation, and does not create an unreasonable public burden by hindering navigation (per 33 CFR § 320.4(g)(3)). In the absence of navigational interference issues, the Corps thus finds no overriding public interest factors relating to navigation which would preclude issuance of this permit (per 33 CFR § 322.5(d)(1)). The navigational concerns raised have been adequately addressed.

**3.2.4.2. Comments Regarding Habitat-Related Impacts to Marine Resources.** The environmental impact of the proposed pier on habitats for important marine resources was a concern expressed by multiple local residents, as well as by the group 'Friends of the San Juans' and by the signatories to the group's comment letter. In summary, comments and concerns regarding environmental impacts centered around three main issues: 1) the extent of eelgrass within the vicinity of the proposed structure and the potential for impacts to eelgrass beds within Horseshoe Bay, and 2) the potential for the proposed structure to impact forage fish and specifically their spawning habitat within Horseshoe Bay, and 3) the consequent effects of impacts on eelgrass and/or forage fish resources on the recovery of threatened salmon stocks and on recreational crabbing in the area.

Comments from the group 'Friends of the San Juans' regarding eelgrass noted that "From the applicant's survey map, it is evident that shade from the proposed dock structure and the long-term moorage of boats at the dock is likely to result in the destruction of a portion of the eelgrass habitat to the north and east of the proposed dock location". They then cited a dive survey performed in February 2002 by a private biologist Eric Eisenhardt which indicated that "a sizeable eelgrass bed lies directly under the proposed dock location and that the applicant's survey may be misleading in this respect". Subsequently, the group 'Friends of the San Juans' also submitted information regarding a recent assessment of eelgrass distribution and density in Westcott Bay (22 August 2003). Data gathered by WDNR and WDFW indicated that between the years 2000 and 2001 eelgrass habitat within Westcott Bay declined from 44.5 to 34.6 acres and then subsequently crashed from 34.6 acres to 0 acres of eelgrass from 2001 to 2003.

Comments from the group 'Friends of the San Juans' regarding forage fish impacts noted that "Information generated by the Washington Department of Fish and Wildlife confirms that this [Horseshoe Bay] is one of the few areas used by these species [surf smelt and sand lance] in the

islands. Development and use of the proposed dock would diminish the beach area available for these species and interfere with their use of this habitat"; they further noted that "WDFW has identified the Westcott Bay complex as Pacific herring habitat". Comments regarding the consequent effects of impacts to forage fish and eelgrass resources were described in the comment letter solicited by the group 'Friends of the San Juans' and signed by numerous members of the public as, "the negative environmental effects of the proposed dock include probable harm to valuable eelgrass habitat for forage fish important to the conservation of threatened and endangered salmonids...".

**APPLICANT'S RESPONSE:** The applicant responded to comments concerning habitat-related impacts to marine resources through their legal counsel (Mr. John Keegan of the law firm Davis, Wright, Tremaine LLP) on 3 January 2003 and on 3 March 2003 through Ms. Pauli Gavora of Gavora Inc., a consulting firm retained by the applicant. In response to the issue of the extent of eelgrass and potential impacts to eelgrass within the vicinity of the project, Mr. Keegan recounted that at the time the proposed pier was approved by the State Shorelines Hearing Board (1999) and by WDFW through the HPA (1997) the location and orientation of the pier did not encroach on eelgrass habitat. Recognizing the possibility that there may have been some movement of the eelgrass since that time, Mr. Keegan then explained that WDFW subsequently renewed the HPA for the pier on the condition that an updated eelgrass survey is conducted for the site prior to any construction. Mr. Keegan then recommended on behalf of the applicant that the Corps condition the issuance of a permit for the Inskeep pier "in the same manner" (e.g., to require an updated eelgrass survey prior to construction) and then indicated that the applicant would comply with WDFW survey requirements for eelgrass "with sufficient precision to verify that a 10-foot buffer will be allowed between project elements and any eelgrass beds". He then further indicated that "any mitigation procedures, e.g., eelgrass relocation, design changes, etc., will be subject to WDFW and USACE review and approval".

In response to the issue of the potential for the proposed pier to impact forage fish and their spawning habitat within the vicinity of the project, Mr. Keegan verified that "Horseshoe Bay has been identified as a potential site for forage fish utilization", particularly for surf smelt and sand lance. Mr. Keegan then pointed to the 2000 forage fish assessment report by L.L. Moulton and D. Pentilla and indicated that only the upper one-third of the inter-tidal zone is critical forage fish habitat area", corresponding "approximately to the area between +7' MLLW and the +9' MLLW line". Mr. Keegan then described the 40-foot span of the pier pilings as clearly avoiding the zone of concern for forage fish spawning by having the "first support on shore and the second support touches down at the +3' MLLW depth". Ms. Gavora similarly responded on 3 March 2003 that, "in light of the Moulton and Pentilla study, we want to make sure the dock structure spans the forage fish zone... and have therefore revised the project drawings to show the first pier support at the top of bank and inland of the +10 foot MLLW", and to "show that the piling supports for the Inskeep dock, which are approximately forty feet apart, allow the dock to straddle and avoid the forage fish critical zone between +7' to +9' MLLW". Regarding the potential for the pier and floats to impact Pacific herring (another forage fish, but one which utilizes eelgrass and red algae beds for spawning rather than upper intertidal beaches), Mr. Keegan noted that "the Inskeep project will avoid eelgrass" and further noted that "the grating which runs the full length of both floats was added as a mitigation feature to allow light penetration for spawning substrate plants like the aforementioned red algae (*Gracilariopsis*)".

**DE RESPONSE:** The construction and use of over water structures such as piers and their associated floats has the potential to adversely affect eelgrass and macroalgae if they are located in the immediate vicinity of a structure. Impacts to eelgrass from piers and floats can result from direct construction related impacts such as piling installation and shading, as well as indirect impacts associated with use of the structure by vessels. Indirect impacts include shading by the pier, floats, and moorage of the vessels, propeller scour, and vessel or float grounding during low tides.

The Corps contacted one of the authors (noted eelgrass biologist Dr. Sandy Wyllie-Echeverria) of the 2003-2004 Puget Sound Submerged Vegetation Monitoring Project Report which had detailed the loss of eelgrass within Westcott Bay between 2001 and 2003 to verify the information presented by the group 'Friends of the San Juans' and to gain updated information on the status of eelgrass within the vicinity of Westcott and Garrison Bays. Dr. Wyllie-Echeverria verified the near total loss of eelgrass in Westcott Bay; he also noted that the cause of the dramatic decline has not been determined. He expressed a number of hypotheses as to the cause of the dramatic decline, including: smothering by silts (locally or regionally derived, or the result of bioturbation), changes in temperature or sediment toxins, a lethal disease, nutrient enrichment from the watershed, and/or changes to the degree or frequency of water flushing within the Bay. Dr. Wyllie-Echeverria reviewed the location and orientation the proposed pier (Attachment J) and concluded that its impact to eelgrass was limited due to its joint-use nature and its location within Horseshoe Bay. In a follow-up letter to the Corps (8 September 2005), Dr. Wyllie-Echeverria (along with Dr. Eric Grossman, a colleague from the US Geological Service) suggested the Corps require the applicant to conduct post-construction monitoring of light levels and circulation patterns within Horseshoe Bay to provide data regarding the potential impact of over-water structures on water circulation in Westcott Bay. Utilizing our database of permit decisions, the Corps determined that there have been 11 permits for piers, pilings, and/or floats issued for Westcott and Garrison Bays since 1972, the majority (7 of 11) were issued in the 1980's (prior to the decline of the eelgrass) and all but one were issued in Garrison Bay (rather than Westcott Bay). The Corps thus concluded that lacking direct or substantially indirect evidence that permitted construction of piers within Westcott Bay has caused or contributed to the decline of eelgrass in that area, it would be unreasonable to require an applicant for a single residential pier to conduct such monitoring.

Numerous eelgrass surveys by both the applicant (30 October 1996, 15 November 1996, 4 June 2003, 23 June 2003) and by other parties (Skykomish Scientific 17 January 2002; undated survey by Captain Cal Bucholz submitted 10 January 2003) have documented the existence and patchy (rather than a widespread or continuous) distribution of eelgrass in the western portion of Horseshoe Bay. This patchy distribution may be due to shading effects of the high bank/rock outcrop along the northwestern side of the Bay, or may be the result of generally declining populations of eelgrass within the greater Westcott and Garrison Bay area (as has been documented by WDNR and WDFW). Regardless of its cause, the patchy nature of eelgrass distribution within Horseshoe Bay is illustrated by the apparent differences in the location and extent of eelgrass which have been documented by the initial site surveys completed in 1996 compared to subsequent surveys in 2002 and 2003.

The applicant's most recent eelgrass surveys conducted in 2003 utilized buoys marking the angle and waterward extent of the pier and floats and surveyed markers indicated the angle and location of the pier relative to the shoreline. These surveys conducted by Jen-Jay Diving used survey transects spaced 20 feet apart and one square meter sample points to determine the location of eelgrass relative to the marked location of the proposed pier and floats. These surveys identified five areas of 'low density' eelgrass within the sample points and one patch located between sample points; each area was located between 10 and 30 feet from the sides of the proposed floats (two to the southeast of the end float; two to the northwest of the end float, and one to the southwest of the distal end of the long float; the patch between sample points was located approximately 30 feet to the northwest of the intersecting corner of the floats). Each of these patches was identified as 'low density' which according to the Jen-Jay Diving protocol is indicative of zero to less than five shoots of eelgrass per quarter square meter sample plot. These results are similar to the distribution of eelgrass documented in 1996 by Jen-Jay Diving in that 'low' densities of eelgrass were documented to the north and west of the western corner of Lot 72 and to the northeast of the 'madrona tree' identified in both surveys at the rocky point of the shoreline which marks the western tip of Horseshoe Bay. The 1996 survey documented 'medium' eelgrass densities to the east of the proposed structure.

The survey conducted in January 2002 by Skykomish Scientific and submitted to the Corps by the group 'Friends of the San Juans' indicated that their survey "started directly offshore of the 'madrona tree with fir snag' where divers descended to the bottom at the depth of 12' MLLW". The report indicated that "the divers completed a broad survey of the entire proposed dock area, looking for eelgrass (*Zostera marina*)" and "the edges of the eelgrass beds were marked with small anchors attached to line and a buoy". The Skykomish Scientific report indicated that "one large and four smaller patches were located and marked" and that "photographs of the buoys were taken" before the buoys, anchors and lines were removed following the survey. No photographs were submitted to the Corps from this survey, but a hand-drawn illustration accompanied the report. The illustration depicted a patch of eelgrass (marked with white buoys) directly beneath the water ward end of the main float, as well as smaller patches (each marked with a single orange buoy), one off the northwestern side of the cross float and two patches to the east of the shoreward end of the main float.

The Corps considered the scientific sampling techniques and different eelgrass distribution results presented by the applicant and the group 'Friends of the San Juans' in order to resolve the apparent discrepancies between the two survey reports. While the Corps finds no reason to doubt that the Skykomish Scientific authors did observe eelgrass within the western portion of Horseshoe Bay, the exact location and density of the eelgrass, and most importantly, the location of eelgrass patches relative to the location of the proposed pier is questionable due to a number of factors. Because the Skykomish Scientific illustration did not include a scale and also did not provide any indication of the density of eelgrass within the identified patches, the amount of eelgrass and the relative size of the patches cannot be determined; because the report did not indicate how the divers determined the location of the proposed pier relative to the shoreline, the water ward extent of the pier, or the angle of the pier and floats relative to each other or the shoreline, the accuracy of the illustration in regards to the location of the proposed pier and the potential overlap of the pier's location and eelgrass beds cannot be determined. Similarly, because the report indicated only that the "divers completed a broad survey of the entire

proposed dock area”, the thoroughness of the survey in the vicinity of the pier’s proposed location cannot be determined.

In contrast, the surveys performed by Jen-Jay Diving included a graphic scale, utilized buoys marking the angle and water ward extent of the pier and floats, and used surveyed markers indicating the angle and location of the pier relative to the shoreline. The Jen-Jay Diving method also utilized predetermined survey transects and sample plots set at regular intervals and reported the occurrence of eelgrass in terms of stem density.

The applicants have specifically and repeatedly designed the location of the proposed pier to avoid and minimize impacts to eelgrass. The western portion of Horseshoe Bay was surveyed on 30 October and 15 November, 1996 by Jen-Jay Diving, Inc. prior to purchase by the applicant and found to be relatively free of eelgrass, relative to general observations of eelgrass density to the east of the proposed location. The proposed pier was then specifically located and oriented to minimize impacts to known patches of eelgrass. Subsequent eelgrass surveys on 4 June 2003 documented patchy eelgrass within the footprint of the proposed pier; in response to this information, the applicant then shifted the pier location 16 feet to the east and slightly shifted its angle relative to the shoreline to avoid impacts to these patches of eelgrass. A third eelgrass survey was then conducted on 23 June 2003 to verify the proposed pier location had been shifted sufficiently to avoid impacts to eelgrass patches. This survey found no patches of eelgrass within 10 feet of the pier location and configuration and only four patches within 20 feet of the floats.

Similarly, the applicant has also reduced the impact of the proposed structure to eelgrass, forage fish, and general fish and wildlife habitat through the choice of materials to support and anchor the floats and through the reduced number and span of the support pilings. The use of Seaflex elastic rodes (rather than anchor chains) eliminates the potential for anchor chains to scour eelgrass and macroalgae beneath and adjacent to the floats. Seaflex elastic rodes consist of “single or multiple rubber cords which elongate and retract with water depth changes and varying wind/wave loads”. Seaflex elastic rodes are pretensioned at the factory according to extreme low water for the installation site; “when subjected to stress the specially braided cords tighten around an elastic rubber core providing progressive resistance that dampens the motion of the water” (25 March 2005 email from Helix mooring systems; information packets provided to Corps by Helix Mooring Systems, Inc. of Belfast Maine). The use of this technology adds stability to floats so they move very little during large tidal changes, keeping impacts from extending over broader areas because of float movements. This technology also eliminates the potential for floats to contact the bottom and impact any benthic resources and also eliminates the need for anchor chains and associated bottom scour during low tides.

The use of helix anchors similarly reduces the impact of the proposed structure due to their very small footprint, a 2-inch anchor shaft, versus a 3-foot cubic concrete sinker or mushroom anchor. Helix anchors do not move within the sediment under load stress, so there is no dragging of the anchoring mechanism through eelgrass beds when under strong load stress (25 March 2005 email from Helix mooring systems; information packets provided to Corps by Helix Mooring Systems, Inc. of Belfast Maine).

The use of a limited number (nine) of steel pilings further reduces the impacts of the proposed structure on eelgrass and macroalgae and thus on Pacific herring which may spawn on these plants within Horseshoe Bay. Finally, the widely spaced pilings (40-feet apart) which span the upper intertidal zone specifically between elevations +7 and +9 feet where surf smelt and sand lance span further minimizes the potential effect of the proposed structure on forage fish spawning habitat. As proposed, a pair of pilings would each be located at elevations +10, +3, 0, and -2 feet MLLW and one single piling to support the end of the ramp would be located at elevation -6 feet MLLW (Attachment E). The complete spanning of elevations +9 down to +3 prevents the pilings from impacting beach substrates which may be utilized by forage fish for the for spawning.

Therefore, the Corps finds that the most recently conducted eelgrass survey conducted by Jen-Jay Diving in June 2003 accurately depicted the extent and relative location of eelgrass within the vicinity of the proposed pier as of June 2003. Further, the Corps finds that the applicant has employed the necessary mitigation sequence in order to reduce potential impacts to eelgrass and forage fish spawning habitat by first avoiding and then minimizing impacts through the use of scientifically valid sampling methods, the use of minimally impacting materials and design elements, and through the specific location and orientation of their proposed structure to avoid known patches of eelgrass and areas of potential forage fish spawning. This diligence, coupled with the nature and scope of this proposal renders circulation studies, such as those proposed by Drs. Wyllie-Echeverria and Grossman, to be beyond the scope of an application for a single residential pier.

As a condition of the 16 July 2003 HPA issued by WDFW, the applicant is required to have Jen-Jay Diving buoy-mark existing patches of eelgrass at the time of construction to ensure that a minimum of a ten foot buffer is maintained between the floats and eelgrass habitat. The July 2003 HPA also includes restrictions on allowable work windows for work below the ordinary high water line, width restrictions on the pier and floats, requirements for light permeable (minimum 60% open space) grating on the floats, maintenance of a 10-foot buffer between floats and eelgrass habitat, the marking of existing eelgrass habitat in the immediate project vicinity prior to construction, using steel pilings, and not allowing grounding of any portion of the float system; all of these conditions will further result in the avoidance and minimization of impacts to eelgrass within the vicinity of the pier and floats. Some of these conditions, in addition to a requirement for a surf smelt spawning survey prior to construction, are also directly incorporated into this Corps permit via special conditions 'd' and 'f', Section 7.

Although the pier, ramp, and floats will be grated to reduce shading impacts on eelgrass and macroalgae, seasonal or permanent moorage of vessels along the floats of the pier will be detrimental to eelgrass due to the shadow of shade beneath the vessels. This shadow can reduce ability of eelgrass to spread into the habitat beneath the vessels. Similarly, even grated floats can reduce the ability of eelgrass to spread into habitats beneath the floats. However, due to the sparse distribution of eelgrass in proximity to the proposed pier's location, the Corps finds that the scale and magnitude of the float and vessel shading impacts is not sufficient to preclude issuance of this permit.

The Corps concludes that limited impacts to eelgrass or subsequent effects on forage fish and their habitat from construction and operation of the proposed pier would not result in the “unnecessary alteration or destruction” of wetlands nor would these impacts result in “a major impairment of wetland resources” through cumulative effects on wetland resources (per CFR § 320.4(b)) given the limited scope and magnitude of the foreseeable impacts and the measures taken by the applicant through the design and location of the proposed structure to specifically minimize potential environmental impacts of the project. The Corps similarly finds that the joint-use aspect of this proposal reduces potential impacts to eelgrass, forage fish, and their associated habitat within Horseshoe Bay by precluding the construction of other piers along 2,100 linear feet of the shoreline and is thus in keeping with 33 CFR § 322.5(d)(1) which states that the Corps “will encourage cooperative or group use facilities in lieu of individual proprietary use facilities”. In the absence of issues regarding wetland and fish and wildlife impacts, the Corps thus finds no overriding public interest factors which would preclude issuance of this permit (per 33 CFR § 322.5(d)(1)). The habitat-related concerns raised have been adequately addressed.

**3.2.4.3. Comments Regarding Aesthetics and Precedent Setting Nature of Proposal.** The aesthetic and precedent setting impact of the proposed pier on local residents and visitors to the area was a concern specifically expressed by local residents, as well as by the group ‘Friends of the San Juans’ and by the signatories to the group’s comment letter.

The focus of Mr. Gil Hobbs, a neighboring property owner across the channel on White Point, comments were on the size of the dock in an area which currently has no over water structures. In a comment letter submitted to the Corps on 17 September 2002, Mr. Hobbs commented that since he purchased the property in 1951 only two homes along Horseshoe Bay were visible from his property and that “the presence of a 254-foot dock would substantially alter our view: it would appear like a marina”. Mr. Hobbs also enclosed a photograph of the view of Horseshoe Bay taken from his property.

The focus of the group ‘Friends of the San Juans’ was not centered on the size of the proposed structure, but rather on proposal of a structure into Horseshoe Bay. In a 23 September 2002 letter from Stephanie Buffum, the group ‘Friends of the San Juans’ similarly expressed concern that “The negative environmental effects of the proposed dock include...damage to the aesthetic enjoyment of literally thousands of boaters and residents every year”, and also stated that “the proposed dock would constitute a visual blight on an otherwise beautiful, mostly natural bay and shoreline”.

Local resident Ms. Sally Webb who owns the dock and lands adjacent to British camp associated with the Westcott Bay Seafarms expressed concern that “the Inskeep dock would be the precedent-setter for other docks as it is the only bay left on the island that is free of docks (excepting the grandfathered Westcott Bay Sea Farm dock)”.

**APPLICANT’S RESPONSE:** The applicant responded to comments concerning aesthetic and precedent setting impacts through their legal counsel (Mr. John Keegan of the law firm Davis, Wright, Tremaine LLP) on 3 January 2003 and on 18 May 2004 in response to a Corps request for additional information. In the applicant’s 3 January 2003 response to public comments, Mr.

Keegan specifically responded to comments regarding the aesthetic impact of the proposed pier for homeowners and boaters coming into Garrison and Westcott Bays. Mr. Keegan cited the following from the examination of this issue by the Shorelines Hearing Board in its review and subsequent approval of the pier:

“The proposed joint-use dock would not be an undue visual intrusion on the shoreline. The high bank behind the proposed location and on either end of Horseshoe Bay will allow the facility to blend into the environment. The applicants have further assured this by the proposed use of non-glare and natural materials for construction of the dock. As proposed, the facility will not interfere with the aesthetic use and enjoyment of this shoreline”.

In the 18 May 2004 letter, Mr. Keegan again acknowledged that “this concern for visual impacts from the dock has been raised in public comment at every stage of this project, and further stated that “Developing a pier adjacent to the high bank on the northwest side of Horseshoe Bay achieved the least aesthetic and scenic impacts”.

In the 3 January 2003 letter, Mr. Keegan responded to the comments regarding the precedent setting nature of this proposal by stating, “If the proposed Inskeep dock is a precedent, it is a good precedent. If every dock built in the San Juans served 2,100 linear feet of shoreline, avoided impacts to fish habitat, and blended into its environment the way the Inskeep dock does, the state SMA [Shoreline Management Act] and the public interest would be very well served, indeed”.

**DE RESPONSE:** Aesthetics associated with the shoreline and nearshore ecosystems consist of the perception of beauty by one, or a combination of, the senses of sight, hearing, touch, and smell. Aesthetics also apply to the quality of life enjoyed by the general public and local property owners. However, aesthetics are also subjective in that what is perceived as aesthetically pleasant or unpleasant varies depending on the viewer’s perspective, expectations, and experiences.

While the construction of a pier or other over water structure in an area where there was not one previously would constitute a visual change, the experience of seeing a pier along the shoreline in the San Juan Islands is not aesthetically unexpected or inherently unpleasant. Shoreline structures are a typical waterfront use throughout the San Juan Islands. The proposed structure is designed with natural materials and is not out of context with other piers in the area, nor is it the only pier within the Westcott and Garrison Bay complex. Several other large piers are present along the western shoreline of Garrison Bay, just around the bend from Horseshoe Bay. Nor is this area and its residents unfamiliar with boats being present within the waterway or within Horseshoe Bay or with heavy and frequent recreational uses of the area by boaters. The group ‘Friends of the San Juans’ itself noted that “literally thousands of boaters and residents” recreationally utilize these waters every year.

The potential for the construction of this pier setting a precedent for the development of other piers in the area in the future is speculative and limited by the need for any such future structures to comply with Federal, State, and local permitting regulations. This proposal may set a

precedent for future proposals as the joint-use aspect of this proposal positively contributed to the reduction of navigation and environmental impacts by limiting the scope and extent of the structure and by reducing the local 'porcupine effect' of a proliferation of piers along much of the shoreline of Horseshoe Bay.

Therefore, the Corps finds that the issues of aesthetics and precedent setting are of limited scope and magnitude and do not constitute an overriding public interest factors which would preclude issuance of this permit (per 33 CFR § 322.5(d)(1)). The aesthetic and precedent setting concerns raised have been adequately addressed.

**3.2.4.4. Comments Regarding Public Ownership of Tidelands.** In a 23 September 2002 letter from Stephanie Buffum, the group 'Friends of the San Juans' stated that "the public has interest in this project since publicly owned tidelands would be impacted by a privately owned dock".

**APPLICANT'S RESPONSE:** The applicant specifically responded to this comment on 22 February 2005, at the Corps request through their legal counsel. Mr. John Keegan provided information to the Corps indicating that in 1910 a Mr. Andreas Thomason was deeded second class tidelands (between the line of ordinary high tide and extreme low tide) for the cultivation of oysters in Horseshoe Bay. "There is no evidence of Mr. Thomason actually cultivating oysters in the area for many decades, and therefore we believe those rights have been abandoned and reverted to the state". Mr. Keegan goes on to note that per RCW 79.90.105, no lease of such lands would be required for a private recreational pier, as "the abutting residential owner to state-owned shorelands, tidelands, or related beds of navigable waters, other than harbor areas, may install and maintain without charge a dock on such areas if used exclusively for private recreational purposes". Mr. Keegan finally also indicated that "the Inskeeps have been paying state and county taxes on the tidelands in front of his property since his purchase of this land in 1996. The state and San Juan County treat Inskeep as the owner of the tidelands".

**DE RESPONSE:** On 9 September 2004, the Corps verified the ownership of the subtidal lands located off the parcels owned by Mr. Inskeep and the other Joint-Users of this application through contacts at the Washington Department of Natural Resources (Ms. Joann Gustafson). Ms. Gustafson indicated that the 'bedlands' were not owned by the State, as "they are oyster tracts and are owned by someone else". The San Juan County assessor's office database indicates that the 'oysterlands' located immediately offshore of the Inskeep Joint Users parcels are owned by a "Mr. Andreas Thomason, his heirs and assigns", address unknown (22 September 2004). These lands encompass 8.1 acres and are indicated by an accompanying map as parcel number 462646 001 000. The provenance of these subtidal lands was further verified by a search of rootsweb.com, a website devoted to genealogy. An entry posted there in 1998 by a Carlos C. Thomason was searching for an Andreas Thomason who's "last known address was in Friday Harbor, in the San Juan Islands where he had an oysterbed". Given that the Inskeeps have been paying taxes on this parcel of land since 1996, and the fact that RCW 79.90.105 provides that "the abutting residential owner to state-owned shorelands, tidelands, or related beds of navigable waters, other than harbor areas, may install and maintain without charge a dock on such areas if used exclusively for private recreational purposes", the Corps can find nothing which would prevent the Joint Users, as the abutting residential property owners, from placing their proposed pier over and onto the subtidal lands immediately offshore of their properties,

regardless of whether or not the state owns the subtidal lands or whether the state and County consider (through taxation) the lands to be owned by Mr. Inskeep and the Joint-Users.

Therefore, the Corps finds that the issues surrounding infringement on public lands by this proposal are not accurate and thus do not constitute an overriding public interest factor which would preclude issuance of this permit (per 33 CFR § 322.5(d)(1)). The concerns regarding ownership of the tidelands have been adequately addressed.

3.2.4.5. Comments Regarding Lack of Public Notice. In a 23 September 2002 letter from Stephanie Buffum, the group 'Friends of the San Juans' stated that "as issue is also a lack of public notice".

**APPLICANT'S RESPONSE:** The applicant did not specifically address this issue.

**DE RESPONSE:** A Public Notice was issued on 22 August 2002 and was available for public comment for the required 30 days, closing on 23 September 2002. The Public Notice was specifically supplied to Heather Spaulding of the group 'Friends of the San Juans' on 6 September 2002 at their request as that group had indicated they did not receive the public notice despite it being sent to their correct address on record with the Corps.

Therefore, the Corps finds that the issues surrounding a lack of public notice during the administration of this application to be inaccurate and to thus not constitute an overriding public interest factor which would preclude issuance of this permit (per 33 CFR § 322.5(d)(1)). The concerns regarding the apparent lack of a public notice have been adequately addressed.

3.2.4.6. Comments Regarding National Environmental Policy Act (NEPA) Compliance. In a 19 September 2002 letter from Smith & Lowney, representing 'Friends of the San Juans', they stated that an alternatives analysis, environmental impact statement, and cumulative impact analysis needed to be prepared to comply with NEPA. They further stated that the project should not be categorically excluded from NEPA.

**APPLICANT'S RESPONSE:** The applicant specifically responded to this comment on 18 May 2004 through their legal counsel. Mr. John Keegan did not believe that an alternatives analysis is required nor are there any "unresolved conflicts" that would trigger an alternatives analysis under the public interest review. Mr. Keegan further stated:

NEPA does not require an alternatives analysis for the Inskeep dock application. The 'rigorous' exploration of alternatives cited by Ms. Buffum is something required only for an EIS pursuant to 40 C.F.R. § 1502.14(a), but it is inapplicable here. Where there is simply an "environmental assessment" being made of the application, which is the case here, the NEPA regulations say that the assessment "shall include *brief discussions* of ... alternatives" 40 C.F.R. § 1508.9(b). The NEPA requirement to look at alternatives independent of an EIS is only applicable where there are "unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E).

However, the applicant did provide information regarding alternative means of mooring and alternative locations for the pier. As for the need for a cumulative impact assessment, Mr. Keegen stated “[t]he Inskeep dock application does not influence the action on any other dock applications.”

**DE RESPONSE:** The Corps regulations in Part 325, Appendix B contain the NEPA Implementation Procedures for the Regulatory Program. In Subpart 6(a)(1), the regulations state the “[f]ixed or floating small private piers, small docks, boat hoists and boathouses” are generally categorically excluded from NEPA documentation. However, Subpart 6(b) states “[d]istrict engineers should be alert for extraordinary circumstances where normally excluded actions could have substantial environmental effects and thus require an EA or EIS.” Finally, Subpart 7(a) states “[w]hen the EA confirms that the impact of the applicant's proposal is not significant and there are no 'unresolved conflicts concerning alternative uses of available resources' (Section 102(2)(E) of NEPA), and the proposed activity is a 'water dependent' activity as defined in 40 CFR 230.10(a)(3), the EA need not include a discussion on alternatives.”

The proposed project is for a private pier and therefore could be categorically excluded from NEPA. However, the structure is one of the larger piers in the area as it is for the use by multiple users and it would be the first pier in Horseshoe Bay. As is evident throughout the document, several scientific and technical issues were examined during the analysis of the project, eelgrass, forage fish, ESA species, fish and wildlife, navigation, etc., that had the potential for substantial individual and cumulative impacts. Also, based on the number of comments received, 63 in total, and the fact that all but one of the comments were either explicitly against the proposed project or expressed concerns and urged careful analysis but the Corps, there are unresolved conflicts associated with the proposed project. Therefore, the proposed project was processed under the standard individual permit process and a full NEPA evaluation, including an alternatives analysis and cumulative impact assessment, was prepared. As discussed in Section 5 below, seven alternatives were examined and the determination was made that the project as proposed represents the environmentally preferable alternative reasonably available to the applicant. Section 6.1.10. below contains a cumulative impact assessment and the determination was made that the impact reduction measures incorporated into the proposed pier design minimize the likelihood of this project significantly contributing to adverse cumulative impacts. In Section 8.1. below a “Finding of No Significant Impact” was made and therefore preparation of a formal environmental impact statement is not required. Therefore, I have determined a full NEPA evaluation was prepared and the proposed project is in compliance with NEPA and the comments have been adequately addressed.

**3.2.4.7. Comments Regarding Endangered Species Act Compliance.** In a 19 September 2002 letter from Smith & Lowney, representing ‘Friends of the San Juans’, they stated that the Corps must comply with the ESA and the June 2000 Biological Evaluation (BE) was insufficient as was the “informal consultation” referenced in the public notice. They believe the BE did not consider the impacts on sand land and surf smelt, ignores the impacts on forage fish, and has only the most cursory mention of impacts to eelgrass.

**APPLICANT'S RESPONSE:** The applicant specifically responded to this comment on 3 January 2003 through their legal counsel. Mr. John Keegan stated that both UFWFS and NMFS have reviewed the application and concurred in the Corps' determination.

**DE RESPONSE:** To comply with the ESA, the Corps required the applicant prepare a BE that described the potential effects on proposed and listed species as well as any proposed or listed critical habitat. As part of the BE, forage fish, including surf smelt and sand lance, and the potential impacts to eelgrass were examined. The applicant provided the original BE in June 2000, with amendments in March 2001 and May 2005. As described in Section 6.1.7. below, the USFWS and NMFS concurred with our determinations of "may affect, but not likely to adversely affect" in 16 October 2001 and 17 September 2001, respectively. The NMFS also concurred on 22 July 2005 with our 2005 revised determination based on the recent proposed critical habitat listing for chinook as well as the proposed listing of the Southern resident pod of killer whales. As for the "informal consultation" used for the ESA consultation, the *Endangered Species Act Consultation Handbook, Procedures for Conducting Section 7 Consultations and Conferences*, dated March 1998 and prepared by both USFWS and NMFS defines the informal consultation process as:

An optional process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services' expertise to evaluate the agency's assessment of potential effects or to suggest possible modification to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat). [50 CFR §402.02, 50 CFR §402.13]

As stated above, both Services concurred with our "not likely to adversely affect" determinations and therefore, the informal consultation was the appropriate method of ESA consultation. The concerns regarding the following the appropriate ESA procedures have been adequately addressed.

3.2.5. Indian Tribal Comments. No comments were received from any Treaty Indian Tribes or members thereof in response to the Public Notice. The Lummi Nation Tribal Historic Preservation Officer (LNTHPO) coordinated with the Corps as part of the National Historic Preservation Act, Section 106 process and concurred with the Corps determination of "No Historic Properties Affected" on 20 May 2005 with the understanding that the recommendations from the 15 April 2005 Archaeological Investigation report by Equinox Research and Consulting International Inc. be implemented, specifically that no ground disturbing activity of any kind be carried out in the proposed area (see Section 7, Special Conditions). See also Section 6.1.9 regarding cultural resources and historic properties.

**DE RESPONSE:** Comments from the Lummi Nation noted and no further coordination is necessary; conditions regarding ground-disturbing activities are incorporated into the Special Conditions 'i' through 'm' of this permit.

3.2.5.1. Treaty Rights. In the mid-1850's, the United States entered into treaties with a number of Indian tribes in Washington. These treaties guaranteed the signatory tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [U.S. v. Washington, 384 F.Supp. 312 at 332 (WDWA 1974)]. In U.S. v. Washington, 384 F.Supp. 312 at 343 - 344, the court also found that the Treaty tribes had the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than de minimis impacts to access to usual and accustomed fishing area violates this treaty right [Northwest Sea Farms v. Wynn, F.Supp. 931 F.Supp. 1515 at 1522 (WDWA 1996)]. In U.S. v. Washington, 759 F.2d 1353 (9<sup>th</sup> Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis. The Ninth Circuit has held that this right also encompasses the right to take shellfish [U.S. v. Washington 135 F.3d 618 (9<sup>th</sup> Cir 1998)].

3.2.5.2. Treaty Determinations. The work proposed in this application has been analyzed with respect to its effects on the treaty rights described above, and my conclusions are that

- (1) the work will not interfere with access to usual and accustomed fishing grounds or with fishing activities or shellfish harvesting;
- (2) the work will not cause the degradation of fish runs and habitat; and
- (3) the work will not impair the tribes' ability to meet moderate living needs.

3.3. Public Hearing. The majority of the public comments received requested a public hearing be held on this application. A public hearing was held on the applicant's Shoreline Substantial Development Permit (SSDP) on 14 November 1997; the Hearing Examiner denied issuance of that permit. The applicant appealed the denial of the permit to the San Juan County Board of County Commissioners and a second public hearing was held on 19 May 1998; the Board denied the appeal. The applicant then appealed the Board's decision and a third public hearing was held on 2 December 1998. Finally, a public contested case hearing (No. 98-033) was held before the Washington State Shorelines Hearings Board on 24 February 1999, providing a fourth opportunity for public comment on this application.

At the Corps' request (28 August 2003), legal counsel for the applicant provided transcriptions of all four public hearings, as well as: the Determination of Non-Significance (13 August 1997) and associated public comments, the County's Public Notices (13 August and 5 November 1997), a San Juan County Permit Center staff report (7 November 1997), the Hearing Examiner's Decision (14 April 1998), denial of the applicant's appeal (2 June 1998), and the State Shorelines Hearings Board overturning of the previous denials and granting of the SSDP (16 April 1999). In addition, Mr. Ned Goldsmith, as a member of the public, provided the Corps with the State Shorelines Hearings Board dissenting opinion on the ultimate granting of the SSDP on 23 September 2002 as part of his public comment on the Public Notice. Many of the members of the public who commented on the Corps Public Notice for this application also provided

testimony and comments at the four public hearings that were conducted on San Juan Island as part of the review and appeal process for the SSDP.

A public hearing was not held by the Corps because the district commander did not feel a hearing “would provide additional information not otherwise available which would enable a thorough evaluation of pertinent issues” (Corps Standard Operating Procedures, 15 October 1999). Due to the numerous opportunities the public was afforded to comment on this application through the SSDP process, and because the location, orientation, and nature of the proposed pier did not change substantially from that was subjected to public review during those hearings and because the issues raised during these hearings were substantially the same as those discussed in this document, the district commander did not feel a public hearing would provide new or substantially different information from that already in the administrative record.

4. Compliance with Other Federal Laws. The work is in compliance with Section 7 of the Endangered Species Act, the Magnuson Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, and the Coastal Zone Management Act.

5. Project Alternatives. The National Environmental Policy Act (NEPA) requires that Federal agencies evaluate a range of reasonable alternatives, including the “No Action” alternative. Under NEPA, the “No Action” alternative and other action alternatives that meet the objectives or purpose of the project are considered reasonable alternatives [40 CFR § 1508.9(b)].

The purpose of the project is to “provide recreational access for these land owners of Horseshoe Bay”, per the applicant’s 19 May 1999 JARPA. Subsequent discussions with the applicants indicates that the purpose of the proposed pier and floats is to provide year-round moorage sufficient to accommodate vessels owned by all ten potential owners of the lots included in the Joint Use Agreement, and to provide unrestricted access to these vessels from these ten properties along Horseshoe Bay without regard to tide or season. As a joint use application, the project purpose also includes restricting future development of other piers or over-water structures on the ten lots covered by the Joint Use Agreement.

Section 102 (E) of NEPA requires that Federal agencies “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources” [42 USC § 4331]. The variety of public comments received in opposition to this proposal indicates there are conflicting opinions as to use of the available resources of Horseshoe Bay. Consequently, the Corps has investigated seven alternatives, including the No Action alternative and the Proposed Action alternative, to meet the purpose of the project.

a) **Not performing the work (No Action):** The No Action alternative would avoid any negative impacts to endangered species or other fish and wildlife and their habitat in the area that are expected to result from construction and use of the proposed pier and floats. Under the No Action alternative, the 31-foot, Grady-White fishing boat currently owned by Mr. Jerry Inskeep would most likely continue to be seasonally launched from Albert Jensens Shipyard in Friday Harbor, moored at a mooring buoy in Horseshoe Bay, and accessed from shore by a dingy. The dingy would continue to be stored in the garage on Tract A and trailered to the beach where it is launched, tied to the buoy, and retrieved by line for each use. Off-season dry dock for the boat

would likely continue in an airport hanger at the Friday Harbor municipal airport. Although the other joint users do not currently own vessels, the lack of a pier under the No Action alternative does not preclude their future purchase of vessels.

However, the No Action alternative would not meet the project's purpose of providing private recreational access to the water without regard to tide and season for the ten lots covered within the Joint Use Agreement. The No Action alternative would also not inhibit existing or future property owners along the eastern and southern shorelines of Horseshoe Bay from constructing other piers or over-water structures.

**b) Performing the work as proposed (Proposed Action):** Direct impacts to water quality and fish and wildlife during construction would be minimal and primarily short-term. These direct impacts have been minimized by the work window timing, limited duration (six days), and methods of construction (vibratory pile driving without proofing), as well as by the requirement for forage fish spawning surveys and marking existing eelgrass beds immediately prior to construction to avoid installation within 10 feet of eelgrass. Impacts to fish and wildlife habitat, through operation of the pier and associated vessel use of the area, will be long-term, but have been reduced to a relatively minor level by: the minimal number (9) and footprint of the 12-inch diameter pilings, the 40 foot span of the pilings over the upper intertidal, the 6 foot width and 15 foot height of the pier over the entire intertidal zone to reduce shading impacts, the use of light permeable grating on the pier, ramp, and floats to minimize impacts to eelgrass and macroalgae, the small footprint of the helix and Seaflex anchoring system, and the north/south orientation of the pier to reduce shading impacts.

Impacts to potential cultural resources have been minimized by special conditions, which prohibit ground disturbance along the access trails located in the uplands leading to the pier, and require installation of geotextile fabric layered over with fill material to reduce the potential for disturbance to any buried archaeological deposits.

Vessels moored along the two floats would be at least 150 to 200 feet from the southern edge of the main channel utilized by vessels for navigation into Westcott and Garrison Bays (where water depths are at least 21 feet) (See Attachment J: Spatial Location Map). This distance between the pier and its moored vessels and the navigable portion of the entrance channel precludes significant constrictions of vessel traffic due to the pier. Impacts to local navigation are also limited due to the location of the pier in the western corner of Horseshoe Bay, the orientation of the longer float parallel to the western shoreline of the Bay, and U.S. Coast Guard requirements for installation of marine aids to navigation on the pier (i.e. lighting). The orientation and location of the pier does not preclude the public's navigational access or recreational use of these waters for temporary mooring of vessels within the central and eastern portions of Horseshoe Bay.

The elevation of the pier above the substrate allows for a minimum of approximately 7.4 feet of clearance beneath the pier at MHHW (+7.6 feet), with increased clearance at lower tidal conditions. Kayakers desiring to maintain a paddling route parallel to the shoreline could utilize this clearance to pass under the pier during all but the highest tides of the year. Paddling around the outer end of the floats would be an inconvenience compared to existing conditions, but the

150 to 200 feet between the end of the outer float and the outer edge of the main channel used by larger vessels would allow sufficient room for kayaks to pass around the pier (albeit with a cautious eye for boat wakes caused by vessels not obeying the local speed limit).

The Joint Use Agreement (Attachment G) entered into by the 'joint users' precludes any future addition of other piers or over-water structures along the 2,100 linear feet of shoreline encompassed by Tracts A and B (lots 88 and 89) and Lots 49, 50, 67, 68, 69, 70, 71, and Lot 72 of the Plat of Yacht Haven, other than the proposed pier on Lot 72. The Agreement specifies that the restriction on other piers be recorded against the property titles for these tracts and that all covenants contained within the Agreement shall run with the land, thus binding future property owners to the prohibition of other piers or over-water structures. Consequently, the exposed western shoreline of Delacombe would be maintained in its current pier-free condition along Point Tract A (Lot 88), the western side of Tract B (Lot 89), Lot 49, and Lot 50 by the Joint Use Agreement. More significantly, the western and southern shorelines of the sheltered waters of Horseshoe Bay that are formed by the eastern side of Lot 89 and Lots 67 through Lot 72, respectively would be protected from additional piers or over-water structures by the Joint Use Agreement. The joint use aspect of this project thus prohibits additional piers and over-water structures from 57 % of the total shoreline of Horseshoe Bay (1,095 of the total 1,922 linear feet from Delacombe Point to the west to the tip of Lot 76 to the east; calculations of shoreline length based on Attachment J).

The orientation and location of the pier along the western shoreline and its high rocky bank also reduces aesthetic impacts to seasonal boaters using the area. The pier and floats will be visible from properties along White Point and the eastern portion of Horseshoe Bay and will be a structure not previously part of their view, however, the pier is similar in size and design to other piers in the vicinity, particularly to the three existing piers along the western shoreline of Garrison Bay. The Joint Use Agreement prevents future aesthetic impacts to property owners on White Point by precluding any future addition of other piers or over-water structures within the western and southern shorelines of Horseshoe Bay.

The restriction on other piers or over-water structures, bound to current and future owners of these properties minimizes the cumulative effects of this alternative, as well as minimizing the short-term, direct impacts to water quality and fish and wildlife during construction and longer-term aesthetic impacts to views of Horseshoe Bay from White Point properties and local and seasonal boaters. By precluding additional piers in this location, the joint use nature of this proposal eliminates potential future effects on local aesthetics, cultural resources, and navigational safety which could result if additional piers were added to this location (the 'porcupine effect' often cited during discussions of the expanding numbers of piers).

Thus, the Proposed Action alternative is an environmentally preferable alternative that meets the project's purpose of providing private recreational access to the water without regard to tide and season for the ten lots covered within the Joint Use Agreement. Both short-term construction related effects and long-term effects from the use of the pier and floats have been minimized through design, materials, and location. The joint use aspect of the proposal also reduces the environmental, cumulative, and aesthetic impacts of the project.

c) **Reducing the size of the proposed work:** This alternative investigated whether the height of the pier, the length of the pier, and the length of the floats could be reduced to accommodate the project purpose. Due to the relatively shallow water depths of Horseshoe Bay, a permanent moorage structure for vessels of the size and draft anticipated by the applicants (approximately 24 feet of moorage for each of the ten lots) needs to be located at an elevation of at least -6 feet MLLW. The proposed pier and ramp extend out from the shoreline to a depth of -4 feet MLLW with the floats at a water depth of -6 to -10 feet MLLW. Thus, the length of the pier and ramp are necessary to place the floats out to a deep enough elevation to prevent grounding of vessels at the lowest tides. Adequate water depth, coupled with the Seaflex anchoring system, prevents the vessels with a draft similar to the existing Grady White fishing boat (19 inches draft) from grounding at the extreme low tides.

The lengths of the proposed floats were designed to serve all ten lots of the Joint Use Agreement and the vessels owned or anticipated to be owned by those lot owners. The approximately 240 lineal feet of docking space on the floats provides approximately 24 feet of docking space for each lot owner. Given that the float lengths will accommodate up to ten vessels of a standard (as opposed to large, greater than 40 feet) vessel size, the floats are thus not oversized. Based on the number of slips and the demand for permanent moorage, vessels less than 40 feet in size are common in the San Juan Islands, as attested to by marina managers at the Roche Harbor Marina, the Snug Harbor Marina, and the Friday Harbor Marina.

The height of the pier above the beach (+15 feet) is necessary to reduce the potential for storm/tide related stress on the structure during periods of maximum to extreme high tide (+9 to +11 feet MLLW) and winter storms. The height also provides at least 7.4 feet of headroom for kayaks or other small vessels to pass beneath the structure at MHHW (+7.6 feet), with more space available to shallow draft vessels like kayaks at lower tides. The height and north-south orientation also reduces shading impacts to forage fish spawning habitat. The proposed pier would stand approximately 7.4 feet above MHHW at the shoreward end, only 1.4 feet (15 inches) higher than the standard 6 feet above MHHW which was recommended by USFWS and NOAA Fisheries to reduce impacts to beach habitats used for forage fish spawning. USFWS and NOAA Fisheries originally negotiated that the Corps Regional General Permit #6 requires piers be at least 6 feet above MHHW (although this requirement was ultimately not incorporated into the RGP6). Lowering the pier by 15 inches (down to the recommendation of a minimum of 6 feet above MHHW) would not appreciably reduce aesthetic impacts to property owners 600 to 1,000 feet away on the eastern side of Horseshoe Bay or on White Point.

Therefore, the alternative of reducing the size or scale of the proposed work would still meet a portion of the project purpose of providing recreational access to the water. However, reducing the lengths of the pier or floats would not achieve the project purpose of access without regard to tide or season for all property owners within the Joint Agreement because the scale and size of the pier and floats are necessary to achieve sufficient water depth and to accommodate ten vessels associated with the ten properties.

d) **Performing the work at another location:** Numerous eelgrass surveys by both the applicants (30 October 1996, 15 November 1996, 4 June 2003, 23 June 2003) and by other parties (Skykomish Scientific 17 January 2002; undated survey by Captain Cal Bucholz

submitted 10 January 2003) have documented a patchy (rather than a widespread or continuous) distribution to the eelgrass in the western portion of Horseshoe Bay, possibly due to shading effects of the high bank/rock outcrop along the northwestern side of the Bay. A dock at a different, more eastern location in Horseshoe Bay, or at another location on San Juan Island may result in increased environmental impacts, particularly to eelgrass, which may be more prevalent, and less able to be avoided, in other areas.

The applicants have specifically designed the location of the proposed pier to avoid impacts to eelgrass. The western portion of Horseshoe Bay which was surveyed on 30 October and 15 November, 1996 by Jen-Jay Diving prior to purchase by the applicants and found to be relatively free of eelgrass, relative to general observations of eelgrass density to the east of the proposed location. The proposed pier was then specifically located and oriented to minimize impacts to known patches of eelgrass. Subsequent eelgrass surveys on 4 June 2003 documented patchy eelgrass within the footprint of the proposed pier; in response to this information, the applicants then shifted the pier location 16 feet to the east and slightly shifted its angle relative to the shoreline to avoid impacts to these patches of eelgrass. A third eelgrass survey was then conducted on 23 June 2003 to verify the proposed pier location had been shifted sufficiently to avoid impacts to eelgrass patches. This survey found no patches of eelgrass within 10 feet of the pier location and configuration and only four patches within 20 feet of the floats. The 16 July 2003 HPA issued by WDFW requires that Jen-Jay Diving buoy-mark existing patches of eelgrass at the time of construction to ensure that a minimum of a ten foot buffer is maintained between the floats and eelgrass habitat.

A pier at another location also would not restrict the development of other piers in that same location as it is unlikely that the 'joint users' could purchase ten neighboring properties for joint use. Without the joint use aspect of the project, construction of a pier at another location would not ameliorate any portion of the 'porcupine effect' caused by the proliferation of single-use piers along the shoreline. Finally, constructing a pier at another location would not allow the applicants recreation access to the water from their properties via boat.

Therefore, performing the work at another project location is not an environmentally preferable alternative because of the potential for greater impacts to the environment and would not achieve the project purpose of providing recreational access for all the property owners of the Joint Use Agreement.

**e) Not performing the work and instead utilizing mooring buoys:** Due to the relatively shallow depth of water in Horseshoe Bay, mooring buoys would have to be located approximately 300 feet offshore to prevent grounding of vessels during low tides. See Attachments L and M: Mooring Buoy Alternatives, prepared by the Corps. As there are currently four property owners for the ten properties covered in the Joint Use Agreement, a minimum of four mooring buoys could be required to meet the project purpose. Mooring buoys for vessels less than 30 feet in length are required by the Washington Department of Natural Resources (WDNR) to have a 135-foot swing radius to allow for the swing of vessels with the changing tides; mooring buoys for vessels between 30 and 60 feet in length are required to have a 175-foot swing radius. Horseshoe Bay is approximately 11 acres in size (480,861 square feet). Four buoys would thus encompass 30 % of Horseshoe Bay (approximately 144,666 square feet if

all four vessels required 135-foot radii) to 51 % (approximately 243,662 square feet if all four vessels required 175-foot radii) (calculations of Horseshoe Bay and buoy swing areas based on Attachments L and M). If all or a portion of the ten properties are subsequently sold to other owners, more than four buoys could be required. Thus, utilization of mooring buoys as an alternative to the proposed pier is more likely to restrict public use of the waters of Horseshoe Bay by occupying 30 to 51 percent of the Bay and thus preventing recreational vessels from temporarily mooring in the Bay. Mooring buoys licensed to the applicants would also prevent neighboring property owners from establishing mooring buoys in Horseshoe Bay, particularly for property owners along White Point which does not have moorage potential due to the proximity of the main navigation channel. See Attachments L and M.

This alternative would place the buoys and their associated vessels directly at the outer edge of or into the deeper waters of the main channel most utilized by vessels transiting into and out of Westcott and Garrison Bays. In contrast, the proposed pier and floats would be located approximately 150 to 200 feet from the main navigation channel at its closest and would occupy 0.4 % of Horseshoe Bay (a 2,080 square foot footprint). Thus, utilization of four mooring buoys as an alternative to the proposed pier is more likely to interfere with navigation by occupying a portion of the main navigation channel and is more likely to restrict public use of the waters of Horseshoe Bay by occupying 30 to 51 percent of the Bay. See Attachments L and M.

The use of mooring buoys alone would not allow the applicants to access their vessels and the water from their properties along Horseshoe Bay without launching a small boat from the shore across the intertidal zone to access the buoys. The use of a dingy would be repeatedly disruptive to a larger area of the intertidal substrate than a fixed location pier. The buoy/dingy alternative would not result in the short-term construction related impacts from constructing a pier and floats; however, it would result in repeated, long-term habitat impacts to intertidal substrates, vegetation, and benthic fauna associated with the use of the dingy.

Therefore, utilizing mooring buoys to accommodate vessels from the ten properties covered in the Joint Use Agreement is not an environmentally preferable alternative because of the potential for greater impacts to the intertidal environment from repeated launching and retrieving of dingys to access the buoys and because of the impacts of multiple buoy anchors to the subtidal portions of the bay. This alternative would also not achieve the project purpose of providing recreational access for all the property owners of the Joint Use Agreement, as it is unlikely that ten mooring buoys could be accommodated within the limited area of sufficiently deep water in Horseshoe Bay. Finally, this alternative would be contrary to the public interest in that it would restrict public use of the waters of Horseshoe Bay and would interfere with navigation into and out of the Westcott and Garrison Bays.

**f) Construction of a marine railway system:** A marine railway system is an alternative structure designed to launch a vessel from private property with minimal environmental impacts and minimal potential to interfere with public access for navigation. A marine rail system generally consists of steel or brass rails placed either directly on the shoreline substrate or elevated above the substrate on steel or concrete pilings or support legs. The rails extend from a boathouse which houses the vessel when out of the water, down to a water depth sufficient for the draft of the vessel not to ground at most tides or water depths. The vessel slides down the

rails into the water on top of a rolling cart or carriage and is retrieved from the water via a hand-cranked or electric winch that pulls the cart and vessel back into the boathouse. The horsepower of the winch is dictated by the loaded weight of the vessel. The vessel remains on the cart and thus on top of the rails at all times when not in the water. Retrieving the vessel from the water requires disembarking the vessel either onto a small pier or into the water to retrieve the winch line from the boathouse, or requires a remotely triggered winch system. The footprint of such a system is confined to the pilings, rails, and the boathouse structure. A marine railway system thus results in minimal shading to the intertidal substrate and minimal sediment disturbance to the beach if the rails are sufficiently elevated to avoid interference with sediment movement along shore. Prop wash disturbance can occur to the subtidal sediments, flora, and fauna in the area where the vessel repeatedly enters the water. (Information acquired from: Transpac Marinas in Anacortes Washington, DH Docks and Tracks in Minnesota, Aqualand Manufacturing Woodruff Wisconsin, and Naylor Systems Ontario Canada).

The feasibility of this system is, however, limited for situations in which more than one vessel is involved. The width of the rails and the configuration of the carriage are specifically designed and constructed to accommodate vessels of a particular size and draft. They require a boathouse or similar structure to house the vessel and the winch system sufficient to retrieve the vessel of a given weight (which is based on its size and material of construction). Marine rail manufacturers report that it would be technically and logistically difficult to accommodate multiple vessels involved in a joint use application, particularly if the vessels are of different sizes, shapes, weights, and drafts. Reconfiguration of the carriage would be required to accommodate different sizes, shapes, and drafts of vessels. Either a separate railway system would be required to launch each vessel, or some type of vessel switching mechanism would have to be designed to move one vessel off the railway and allow placement of a different vessel. This could involve something like an overhead winch or crane system to switch vessels during launching and retrieving. Multiple vessels would require either a large boathouse with a vessel switching mechanism or multiple boathouse structures to accommodate multiple vessels.

Therefore, the alternative of designing and constructing a multiple rail system would meet a portion of the project purpose of providing recreational access to the water. However, the practicability of this alternative is significantly reduced by logistics of constructing and operating a marine railway system and associated structures to meet the project objective of accommodating multiple vessels associated with the ten properties covered in the Joint Use Agreement. Designing a marine railway system to accommodate a number of vessels of the same size, shape, weight, and draft would unreasonably restrict the applicants' choice in purchasing vessels. In addition, construction of multiple railways and/or multiple structures would increase the footprint of the railway system and its associated structures and thus increase the potential for environmental or archeological effects associated with placement of the footings, rails, and boathouse structures.

**g) Utilizing existing marinas and/or public boat launches:** The largest areas for seasonal and permanent vessel moorage on San Juan Island are at the Roche Harbor Resort (280 total slips, all permanent), the Snug Harbor Resort and Marina (72 slips, majority permanent), the Port of Friday Harbor Marina (400 slips, both permanent and seasonal), the Shipyard Cove Marina (~250 slips), and at the Jensen Shipyard (~52 slips, covered permanent moorage). Slip

availability is based on vessel size and is generally much more limited with increasing vessel size. Permanent slips are less frequently available than seasonal slips, which require vessels to be removed from the water over the late fall to early spring season. There are very few slips for large vessels (those over 40 feet long) at any particular marina and these slips become available infrequently due to the difficulties and cost associated with trailering vessels over about 40 feet in length.

The vessel currently owned by Mr. Jerry Inskeep is 31 feet in length, 11 feet in width, with 19 inches draft. Permanent slips for vessels in the 30 to 40 foot range are in high demand, and are consequently very limited in their availability on San Juan Island. As of April 2005, no permanent moorage was available on San Juan Island; all the marinas on the island maintain a waiting list of individuals seeking permanent moorage for their vessels (based on telephone interviews with marina staff at Roche Harbor Resort, the Snug Harbor Resort and Marina, the Port of Friday Harbor Marina, the Shipyard Cove Marina, and at the Jensen Shipyard). The wait time for a permanent slip for a single 30 to 40 foot vessel varies from three to six months at the Friday Harbor Marina, to two to three years at the Snug Harbor Marina, to approximately five years at the Roche Harbor Resort. Both the Shipyard Cove Marina and the Jensen Shipyard report unpredictable and variable wait times of anywhere from six months to several years for permanent moorage in Friday Harbor.

San Juan County Park provides a free public boat launch on the northwestern end of the island; the County Park at Jackson Beach also provides a free public boat launch just south of Friday Harbor on the southeastern end of the island. Both the Roche Harbor Marina and the Snug Harbor Marina also have boat launch facilities available for a fee. Launching at these boat launches would require trailering vessels and towing them from the properties along Horseshoe Bay to these locations and then back again. No facilities currently exist on the properties along Horseshoe Bay for storing trailers or boats larger than a dingy. Mr. Inskeep's vessel is currently stored in an airport hanger at the Friday Harbor municipal airport and launched once a season from the Albert Jensens shipyard in Friday Harbor.

The Friday Harbor Marina currently has the shortest waiting list (approximately three to six months) for permanent moorage of the 31 foot vessel owned by the applicants. Renting a marina slip or utilizing the boat launch at the Friday Harbor Marina or the Jackson Beach boat launch at the south end of the island would require driving approximately 10 miles from Horseshoe Bay to the boat launch or marina. To return to the Horseshoe Bay vicinity for recreational boating, would then require an approximately 13.4 to 18.6 mile, respectively, one way journey in the boat. While the driving distance from Horseshoe Bay to either the Snug Harbor or the Roche Harbor Marinas or boat launches is shorter (approximately 5 miles), and would require a shorter boat journey (approximately 1.6 to 2.3 miles respectively) to return to Horseshoe Bay, these marinas have the longest waiting lists for permanent moorage (two to five years). The San Juan County Park boat launch along the western shore of the island is an approximately 7 mile drive from Horseshoe Bay, followed by an approximately 3.7 mile return boat journey to return to Horseshoe Bay. See Attachment N: Location of Marinas and Public Boat Launches.

Therefore, while mooring the vessels at an existing marina would meet a portion of the project purpose of providing recreational access to the water. However, the reasonability of this

alternative is reduced by the limited and sporadic availability of permanent moorage on San Juan Island; it would be difficult to secure sufficient permanent moorage to meet the project objective of access for all vessels associated with the ten properties of the Joint Use Agreement. Storing, trailering, and launching the vessels from public boat launches on the northern end of the island would similarly meet the project purpose of recreational access to the water, but its reasonability is somewhat limited due to the combination of driving distance and boating distance required to utilize these facilities from the Horseshoe Bay properties.

Section 320.4(g)(3) of 33 CFR states “a riparian landowner’s general right of access to navigable waters of the United States is subject to the similar rights of access held by nearby riparian landowners and to the general public’s right of navigation on the water surface. In the case of proposals which create undue interference with access to, or use of, navigable waters, the authorization will generally be denied.” Section 320.4(g)(1) states, “an inherent aspect of property ownership is a right to reasonable private use. However, this right is subject to the rights and interests of the public in the navigable and other waters of the United States, including federal navigation servitude and federal regulation for environmental protection.”

As there are no overriding public interest factors that would override the applicants’ inherent right to reasonable private use of their properties, the availability of public boat launches for recreational access to the water does not preclude authorization of this joint use pier.

Nothing in the public record suggests the existence of an environmentally preferable alternative to the applicants’ proposal not considered during the above NEPA alternatives analysis. Neither agencies, treaty Indian Tribes, nor the general public had any comments or suggestions about alternatives which the Corps has not considered, as detailed above.

I have conducted an independent analysis of these project alternatives. My conclusion is that building the proposed pier, ramp, and floats at the proposed location in Horseshoe Bay represents the environmentally preferable alternative reasonably available to the applicant.

6. Impact Evaluation. The Corps has evaluated both the individual and cumulative impacts of the proposed work. The evaluation considered relevant factors as applicable to this application, including: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. Possible alternatives to reduce identified adverse impacts have also been considered and the applicants have incorporated impact reduction measures wherever practicable.

6.1. Results. The results of this evaluation are discussed in the following sections.

6.1.1. Affected Environment. The project is located in the western portion of Horseshoe Bay at the northwestern end of San Juan Island; Horseshoe Bay is situated along the southern side of the entrance channel into the large Westcott and Garrison Bay complex. The area is popular with seasonal boaters and tourists to the English Camp unit of the San Juan Island National Historic Park located along Westcott Bay.

Horseshoe Bay does not currently contain any piers, but does contain several mooring buoys, two of which are frequently used but not owned by the applicants and/or their tenants. The proposed project will be the first permanent over-water structure within the bay, but the joint use aspect of the proposal will prevent the addition of other structures along the western shoreline of Delacombe Point and the eastern and southern shorelines of Horseshoe Bay. The shoreline is in a natural, forested condition typical of the San Juan Islands and transitions rather abruptly in places to a broad gravel beach.

6.1.2. Special Aquatic Sites. There are special aquatic sites within the permit area. The area contains both mudflats and vegetated shallows inhabited by eelgrass (*Zostera marina*) and a variety of marine algae which provide important rearing habitats for juvenile salmonids and forage fish. Several scuba surveys conducted on behalf of both the applicant and opponents to the project have documented a patchy (rather than a widespread or continuous) distribution to the eelgrass in the western portion of Horseshoe Bay, as well as variable densities of marine algae (*Laminaria*, *Ulva*, and *Gracilaria*) within the project area. None of the eelgrass was located directly under the proposed pier, ramp or floats as of the most recent survey (23 June 2003). This survey found no patches of eelgrass within 10 feet of the pier location and configuration and only four patches within 20 feet of the floats. The 16 July 2003 HPA issued by WDFW requires that existing patches of eelgrass be buoy-marked at the time of construction to ensure that a minimum of a ten-foot buffer is maintained between the floats and eelgrass habitat.

Impact reduction measures have been incorporated into the proposal to minimize direct and indirect impacts to eelgrass and macroalgae through shading, including: reductions in the width of the pier, ramp, and floats, incorporation of light-permeable grating into the pier, ramp, and floats, orientation of the structure in a north-south direction, limiting the number of pilings, elevation of the pier over the substrate, using helix anchors to minimize anchor footprints, and using Seaflex rodes to prevent the floats from grounding at low tide and scouring subtidal vegetation and invertebrates. The joint use aspect of this proposal is also a substantial impact reduction measure in that it prevents future impacts to special aquatic sites from additional over-water structures within the western and southern portions of Horseshoe Bay.

I have determined that the impacts to special aquatic sites, with the addition of special conditions 'c', 'd', 'g', and 'h', listed in section 7 are not contrary to the public interest.

6.1.3. Water Quality. The proposed construction of a pier, ramp and float structure will result in minor, short-term turbidity impacts caused by vibratory pile driving of the nine steel pilings. Indirect effects to water quality, such as small-scale spillage of gas, may also result from the moorage of recreational vessels at the proposed pier. However, these indirect effects to water quality are expected to be relatively minor and infrequent. In addition, leaching of copper, arsenic and/or zinc into the marine environment may result from the installation of ACZA treated wood timbers on the floats. In order to minimize the impact of leaching, the applicant will utilize the "Best Management Practices for the Use of Treated Wood in Aquatic Environments" dated July 1996 and developed by the Western Wood Preservers Institute. I have determined that the impacts to water quality are not contrary to the public interest.

6.1.4. Coastal Zones. The Washington State Department of Ecology (Ecology) is the agency responsible for determining compliance with the Coastal Zone Management (CZM) Act program. A waiver of Ecology's consistency determination relative to the Washington State Coastal Zone Management Program and Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, is assumed due to expiration of the 180-day deadline for agency response from the date of Public Notice (22 August 2002). I have determined that there will be no impacts to coastal zones which are contrary to the public interest.

6.1.5. Fish and Wildlife. Impacts to fish and wildlife species will result from the short-term construction activities, as well as the long-term structure and recreational boat activities. Construction related impacts would be minimized through the design of the pier, ramp, floats, and anchoring system and by the use of best management practices and work window requirements. The long-term impacts are expected to be minor and the habitat degradation to eelgrass and macroalgae beds which can result from shading have been minimized through the measures taken to reduce impacts to special aquatic sites (see section 6.1.2) and by measures taken to reduce impacts to forage fish spawning habitat on the beach. These measures include: the 40 foot span of the pilings over preferred spawning elevations which minimizes direct impacts to the substrate and the potential for the accumulation of floating debris between the pilings, the height, grating, and orientation of the pier over the substrate which minimizes shading of the substrate, and by special conditions 'd', 'e', and 'f' requiring eelgrass surveys and buffers, in-water work windows, and forage fish spawning surveys prior to construction.

Impacts to ESA listed species are addressed separately in section 6.1.7 below; however, the minimization measures implemented as part of the ESA consultation process are expected to benefit other fish and wildlife in the area, particularly forage fish. I have determined that the impacts to fish and wildlife, with the addition of special conditions 'c' through 'h', listed in section 7, are not contrary to the public interest.

6.1.6. Flood Hazards and Floodplain Values. The proposed construction of a pier, ramp and float structure will not result in a flood hazard and will not alter floodplain values. I have determined that there will be no impacts to flood hazards and floodplain values that are contrary to the public interest. I have determined that any impacts to flood hazards and floodplain values are in compliance with Executive Order 11988.

6.1.7. Endangered Species. Listed below are the species, listed under the Endangered Species Act of 1973, as amended, that occur in the project area and the Corps' determination of effect.

- Bald eagle (*Haliaeetus leucocephalus*), threatened, may affect, not likely to adversely affect
- Marbled murrelet (*Brachyramphus marmoratus marmoratus*), threatened, may affect, not likely to adversely affect
- Stellar sea lion (*Eumetopias jubatus*), threatened, may affect, not likely to adversely affect
- Puget Sound bull trout (*Salvelinus confluentus*), threatened, may affect, not likely to adversely affect

- Puget Sound Chinook (*Oncorhynchus tshawytscha*), threatened, may affect, not likely to adversely affect
- Proposed critical habitat for Puget Sound Chinook, no destruction or adverse modification (as proposed); may affect, not likely to adversely affect (if designated)
- Southern resident pod of killer whales (*Orcinus orca*), proposed threatened, no jeopardy to continued existence (as proposed); may affect, not likely to adversely affect (if listed)

A biological evaluation (BE), originally dated June 2000, was prepared by Jen-Jay Diving; that BE was amended in March 2001 and sent to the National Marine Fisheries Service and the US Fish and Wildlife Service on 28 June 2001. The BE provided supporting documentation to our determination on 'may affect, but not likely to adversely affect' listed species. On 17 September 2001, the National Marine Fisheries Service concurred with our findings for the project (NMFS No. WSB-01-296); on 16 October 2001 the U.S. Fish and Wildlife Service concurred with our findings for the project (FWS Reference 1-3-01-I-1905). The BE was subsequently amended a second time (May 2005) to provide supporting documentation to our determination of 'no jeopardy to the continued existence' of the southern resident pod of killer whales (as a proposed threatened species). The May 2005 amended BE also provided supporting documentation for our determination of 'no destruction or adverse modification' for proposed Puget Sound Chinook critical habitat. The National Marine Fisheries Service concurred with our findings based on the May 2005 BE on 22 July 2005.

To achieve minimal impacts on listed species, special conditions 'c' through 'h' in section 7 of this document will become conditions of the permit. I have determined that the proposed project is in compliance with Section 7 of the Endangered Species Act.

6.1.8. Essential Fish Habitat. In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Corps assessed the potential impacts of the project on Essential Fish Habitat (EFH) for 3 species of Pacific salmon, 46 species of groundfish, and 4 coastal pelagic species. Based on the rationale detailed in the May 2005 Biological Evaluation, the Corps has determined that the proposed action will "*not adversely affect*" EFH for Pacific salmon, groundfish, and coastal pelagic species. No further EFH consultation is necessary. I have determined that the proposed project is in compliance with the Magnuson-Stevens Fishery Conservation and Management Act.

6.1.9. Cultural Resources and Historic Properties. The Corps has determined that no historic properties will be affected by the proposed project. This determination is based on the fact the proposed work is of such a limited nature and extent that little likelihood exists for the project to impinge upon an unrecorded historic property. The Lummi Nation Tribal Historic Preservation Officer (LNTHPO) coordinated with the Corps as part of the National Historic Preservation Act, Section 106 process and concurred with the Corps determination of "No Historic Properties Affected" on 20 May 2005 with the understanding that the recommendations from the 15 April 2005 Archaeological Investigation report by Equinox Research and Consulting International Inc. be implemented, specifically that no ground disturbing activity of any kind be carried out in the proposed area (see Section 7, special conditions 'i' through 'm').

To achieve minimal impacts on cultural resources and historic properties, special conditions ‘i’ through ‘m’ in Section 7 of this document will become conditions of the permit. I have determined that the proposed project is in compliance with Section 106 of the National Historic Preservation Act.

#### 6.1.10. Cumulative and Secondary Impacts.

**A. Geographic basis for analysis (definition of analysis area).** In determining the geographic scope for analysis of cumulative impacts, the Corps considered several scales to determine the appropriate project impact zone that would be affected by the proposed pier. Effects of a pier are largely related to impacts on aquatic resources; thus, at a landscape scale, the nearshore marine waters of the San Juan Islands would be affected by the proposed project. However, the Corps determined that this scale was too broad to effectively capture the effects of this proposal, as the effect of a single pier on the entirety of the San Juan County’s nearshore marine waters would be diluted to such a degree as to be immeasurable. Similarly, although the proposed pier would more directly effect the nearshore marine waters of San Juan Island itself (as compared to the waters of all 176 named islands and reefs in San Juan County), the Corps also determined that an island-specific scale was too broad and would dilute the effect of the proposed pier as much of the San Juan Island’s shoreline is too steep or too exposed to support residential piers.

Rather, the waterways and shallow embayments of the northwestern end of San Juan Island are the nearshore waters most directly impacted by activities along the shoreline as well as by land-use activities within their adjacent watersheds (principally the Roche Harbor and Westcott-Garrison Bay watersheds as defined by San Juan County). As protected waters, sheltered to a large extent from storms and swift currents, these areas are the most hospitable to residential piers and have been subject to the historical development of such structures. These areas are similarly the most likely areas which will be subject to future proposals for over-water structures and are the areas which all have similar ecological resources (water quality, eelgrass/macroalgae, fish and shellfish habitats) subject to similar impacts from both upland development and over-water structures (i.e. overlapping impact zones). These watersheds drain into Mitchell and Mosquito Bay to the south, Mosquito Pass, Westcott, Garrison, and Horseshoe Bays in the center, Roche Harbor and the southern side of Spieden Channel to the north, and the waters surrounding Henry Island (including Nelson and Open Bays) to the west. Thus, the project impact zone encompasses these waters, as well as the lands draining into these water bodies, extending from just east of Limestone Point at the northern end of San Juan Island, around the northwestern end of the island, to the southern side of Smuggler’s Cove on the western side of the island (Attachment O: Geographic Scope of Cumulative Impacts Analysis). Watershed boundaries were determined from topographic divides, as indicated on the USGS topographic survey maps for the Roche Harbor and Friday Harbor quadrangles.

The Westcott-Garrison Bay watershed encompasses approximately 3,609 acres, the majority of which (32%) was characterized in 1999 as dense forest; the predominate land use (based on 1999 data) is timber land (34%) with 7% of the land use being residential parcels. There are 4 miles of streams, 53 acres of lakes, and 106 acres of freshwater wetland, and 153 acres of marine and intertidal wetland associated with this watershed (San Juan County Watershed Management Action Plan, June 21, 2000). The Roche Harbor watershed encompasses approximately 238

acres and is similarly characterized as predominately dense forest (32%), but with more than a third of the land use (36%) being residential parcels (San Juan County Watershed Management Action Plan, June 21, 2000).

**B. Aquatic resources of greatest concern within project impact zone.** The Corps determined the aquatic resources of greatest ecological and social concern within the project impact zone principally through analysis of: 1) public comments submitted in response to the Public Notice; 2) public comments submitted in testimony at the Shoreline Substantial Development permit hearings; 3) the June 2000 San Juan County Watershed Management Action Plan and the March 1999 Issues of Concern Report for the Westcott-Garrison Bay critical marine habitat area, both prepared by the San Juan County Planning Department; and, 4) numerous publications regarding forage fish, eelgrass, and marine habitat quality prepared by and for the 'Friends of the San Juans', the Washington Department of Fish and Wildlife, and the University of Washington's Friday Harbor Laboratory.

In reviewing and analyzing these sources of information, the Corps specifically considered the types of aquatic resources which could be affected by construction and operation of the proposed pier, as well as the types of resources which have historically been socially valued, commercially utilized, and directly affected by historic and current activities on San Juan Island. We chose not to focus explicitly on specific organisms such as eelgrass, forage fish, shellfish, or salmonids, the populations of which are considered indicative of healthy marine and nearshore systems and concern for which was repeatedly expressed by the public. Rather, we choose a more comprehensive focus to capture the larger, more universal resources which are socially and economically valued by residents and visitors to the San Juan Islands and which are essential to the existence of healthy populations of eelgrass, forage fish, shellfish, and salmonids. We believe this will include the specific resources of concern (eelgrass, forage fish, shellfish, and salmonids).

Through this analysis, the Corps thus concluded the resources of greatest ecological and social significance in the project impact zone are:

- 1) Marine water quality, and
- 2) Shoreline and nearshore habitat quality

Marine water quality is generally considered high in the waters of the San Juan Islands, but it is a factor at risk for increasing rates of degradation due to the cumulative effects of actions ranging from upland and shoreline development, to nonpoint source pollution, to discharge from boats and marinas. The entire marine food web, from plankton, eelgrass, and macroalgae, to commercially harvested populations of shellfish, crustaceans, and salmon, to species such as bald eagles and orcas which are valued by local residents and attract tourist dollars to the area, depends on high marine water quality.

Shoreline/nearshore habitat quality encompasses the condition of the shoreline, beaches, intertidal marshes and mudflats, and shallow subtidal areas. Shoreline/nearshore habitat quality is also generally considered fairly high in the San Juan Islands (relative to larger and more populated areas of Puget Sound). However, the cumulative effects of physical disturbance and

loss of these habitats through residential development, shoreline erosion, and the development of piers, marinas, and associated facilities for accessing the water puts shoreline/nearshore habitat at risk for degradation. Many of the ecologically, socially, and economically valued species that inhabit the San Juan Islands require high quality shoreline/nearshore habitat conditions.

Eelgrass and macroalgae depend on sufficient light penetration and protected embayments for anchoring and expansion of their populations; aquaculture of oysters, clams, and mussels depend on the slow flow of water and nutrients into protected waters; forage fish depend on appropriate substrate shoreline conditions for spawning; salmon, eagles, and orcas depend on healthy habitat conditions within their food web (through eelgrass, macroalgae, and forage fish); local residents, recreational boaters, fishermen, kayakers, and wildlife/bird watchers value natural shoreline vegetation and habitats to create the recreational and aesthetic experience they seek in the San Juan Islands.

### **C. Pathways of impacts to marine water quality and shoreline/nearshore habitat quality.**

The Westcott-Garrison Bay watershed is considered a surface water resource area with a high nonpoint source pollution risk from onsite sewage systems, forestry practices, and land conversion (including solid/hazardous waste) and a medium risk from agricultural practices, storm water runoff and marinas/recreational boating. The smaller Roche Harbor watershed is not considered a surface water resource area, but is considered to have a high risk of nonpoint source pollution from onsite sewage systems, land conversion, and marinas/recreational boating. Forestry practices and agriculture are considered to pose medium level risks to the Roche Harbor watershed (San Juan County Watershed Management Action Plan, June 21, 2000). San Juan County identified five elements of critical marine habitat (mudflats, eelgrass, salt marsh, forage fish, and shellfish) and three main issues of concern for Westcott-Garrison Bay (hydrologic alterations, water quality degradation, and physical disturbance).

Within these three issues, the County's report identified several pathways of effect on critical marine habitat. Several of these pathways are consistent with concerns expressed by the public throughout the public comment and public hearing process related to this application and represent pathways to cumulative effects on aquatic resources within the project impact zone. Those pathways include land conversion/urbanization, shoreline development, and boating activities. Although not specifically mentioned by the public, the Corps also considers forestry and agricultural practices to be pathways relative to cumulative impacts on aquatic resources due to their landscape scale and impact on land cover, wetland and stream habitats, water quality, and nonpoint source pollution.

The Corps thus concluded that the following pathways have affected and continue to affect important resources, as identified above, of the project impact zone:

- 1) Agriculture and forestry activities, including fecal coliform and sediment impacts to water quality and direct impacts to streams, wetlands, and their buffers.
- 2) Land conversion to residential development (shoreline vegetation clearing, erosion of shallow soils, construction of roads and impervious surfaces, wetland degradation or destruction, storm water pollution and detention), including post development impacts through landscape practices (leaking septic systems, pesticide and herbicide use).

- 3) Boating activities and structures, including marinas and over water infrastructure, and anchoring disturbance to physical habitats and pollutant (fecal and chemical) discharge impacts to water quality.

The effects of these activities overlap in time and space, and compound to cumulatively affect marine water quality and shoreline/nearshore habitat quality. The Corps has determined the potential primary impacts of each activity on important resources, and then the functional changes these impacts have caused (Section E), and finally, the consequences of those changes in terms of trends in these resources (Section F). This analysis does not represent a compilation of every potential impact or change possible, but rather focuses on the major impacts, changes, and consequences within the Westcott/Garrison Bay and Roche Harbor watersheds that are of local and regional significance.

**D. Historic Landscape Conditions.** The conditions of the historic landscape were interpreted from historical data sources from 1880, T-sheets of San Juan Island from 1894, and accounts of Native American use of the island. These conditions establish a baseline for the cumulative impact analysis, against which the trajectory or trend of effects to these resources can be assessed.

San Juan County is the smallest of Washington's 39 counties, with approximately 175 square miles of land area. San Juan County consists of 176 named islands and reefs (up to 743 at low tides). The San Juan Islands are much older, geologically, than the mainland as they were formed as the oceanic plate crushed against and folded under the continental plate. The islands belong to a greater watershed locally known as the Salish Sea stretching from the base of the Olympic Mountains to the Georgia Strait in British Columbia. This inland waterway experiences a large amount of tidal flushing, pulling the marine waters through the narrow passageways between the islands. This produces an incredibly lush marine environment which has supported Native American speakers of the Northern Straits Salish language, the present-day Lummi, Saanich, Samish, Semiahmoos, Songhees, and Sooke peoples for the past 5,000 to 11,000 years.

The Lummi were the first inhabitants of San Juan Island, establishing both permanent villages and more seasonal summer camps for salmon fishing; they lived on the north end of the island before migrating to Orcas Island and then ultimately to Gooseberry Point near the present-day city of Bellingham where the Lummi Tribe resides today. These first peoples transformed the forested landscape of the island through extensive clearing of the forests and meadows with fire to support intensive cultivation of native food crops such as camas, tiger lily, chocolate lily, and onions. Reef-net fishing and summer camp sites locally impacted the shoreline and nearshore marine habitats of the island.

The San Juan Islands were claimed for Spain in the late 1700's by Francisco de Eliza, but the first European settlements were founded by the American and British in the early to mid 1800's. Sometime before 1850, the Lummis (numbering approximately 400 to 500 people) largely abandoned settlements in the San Juan Islands because of smallpox and attacks of other tribes, especially those from British Columbia. San Juan Island supported both Canadian and American settlers, as well as British employees of the Hudson's Bay Company. Although the islands were disputed territories, settlers coexisted relatively peacefully until 1859 when the 'Pig War' broke

out between a British justice of the peace and an American settler over the shooting of a British-owned pig that trespassed once too often into an American's vegetable garden. The American sought the protection of the United States government and soon army garrisons from both nations were assembled at the south end of the island (American Camp) and along Garrison Bay (British Camp). Twelve years of joint occupation ensued until Kaiser Wilhelm of Germany settled the dispute in 1872 and granted the islands to the United States, making San Juan Island the last American soil occupied by the British. San Juan County was established as a part of Washington Territory in 1873.

Without land-clearing efforts of the Lummis, much of San Juan Island gradually transformed back to a forested landscape dominated by Douglas fir trees. In 1880, the Immigration Aid Society of North-Western Washington characterized San Juan Island as inhabited by "100 voters, showing that it is nearly all settled"; forested land was considered less than prime for settlement as it required clearing, by hand or with animals, of the trees in order to settle and farm. Sheep raising in the open areas was the primary industry, along with the manufacture of lime from the western portion of the island. The island boasted "two schools (run in the summer), good roads traversing the island, a large general store at the south end of the island, a church, two post offices, and a saloon". Hand-drawn T-sheets created in 1894 document the beginning of European impact on the habitats of San Juan Island, illustrating the concentration of development at the southern (Friday Harbor) end of the island and at the northern (Roche Harbor) end of the island. These areas lost their forested cover by the late 1800's as they were converted into the 'settled' areas with the greatest population densities. The watershed of Westcott and Garrison Bays was mostly forested in 1894; small parcels of land were cleared for homes and orchards, and areas dozens of acres in size were maintained as grasslands and fenced to contain livestock (presumably sheep). Interestingly, many of the 'grassland' areas east of Mitchell Bay are still used today for agriculture.

Population growth was historically recorded by County not by island. In the late 1800's, the population of San Juan County rose quickly from 554 in 1870, to 948 in 1880, to 2,072 in 1890 and 2,928 at the turn of the 20<sup>th</sup> century. Being the second of the three largest islands, San Juan Island likely supported a good deal of that population, in addition to Orcas and Lopez Islands. Fostered by the promotional efforts of the Immigration Aid Society, colonization of the San Juan Islands occurred relatively quickly in the 1900's, supported by agriculture and fishing and the development of lime resources at Roche Harbor by the Tacoma and Roche Harbor Lime Company, incorporated in 1886. Smuggling of wool, alcohol, narcotics, and Canadians through the intricate waterways of the islands also supported the local economy. The fisheries of San Juan County were known and characterized as "extensive and inexhaustible", but were largely unexploited mostly for lack of capital investment in ships and nets.

Settlers historically either occupied San Juan Town on Griffin Bay (until its abandonment and fire of 1890), Friday Harbor at the eastern side of the island, the factory town of Roche Harbor which had grown up around the lime quarry, or rural homestead scattered across the island. This same pattern of settlement is still seen today, but with the addition of new development of the Roche Harbor Resort at the northern end of the island after the demise of the lime quarry and sale of the town of Roche Harbor in 1956.

Historical land use on San Juan Island resulted in a patchwork of forested lands used variously for timber harvest, open agricultural lands used for grazing (primarily sheep), settled 'urban areas' around Friday Harbor and to some degree around Roche Harbor, and scattered, large rural homesteads which resulted in various levels of land-clearing depending on the size and occupation of the settlers. These land uses likely impacted marine water quality within the project impact zone according to the same pathways identified above in Section C; although fewer numbers of people inhabited the island historically, there was also very little recognition or regulation of nonpoint source pollution or storm water runoff. Shoreline development and impacts from boating and aquaculture were historically much more limited as commercial and recreational fishing, boating, and shellfish production were not dominate industries until the mid-20<sup>th</sup> century.

Today, land use on San Juan Island is still a mosaic of forested, agriculture, 'urban', and rural residential, but with a much greater density of people; San Juan Island alone supports nearly 7,000 of the County's 14,077 residents (as of 2000, the most recent year for which island specific data is available). As of 2004, approximately 2,075 people on the island resided in the town of Friday Harbor, the remainder are scattered across the island on large (multiple-acre) interior lots or smaller, closely packed shoreline lots. In addition to the permanent residents, seasonal residents and tourists swell the island's population every summer staying predominately in summer cabins, hotels, and bed and breakfast accommodations (see Section E below for additional analysis of population trends and Section F regarding existing land use).

**E. Major Changes/Trends.** The changes in the landscape conditions for the cumulative impact assessment were established using aerial photographs from 1977, 1983, 1995, and 2002, as well as from comparing these photos with the historical accounts of the area and with information regarding trends in important resources of the area. Population data was obtained from the U.S. Census Bureau from the 2000 and 2003 census, the Washington Office of Financial Management intercensal and postcensal population estimates from 1960 through 2004, and via the San Juan County Community Development and Planning Department summaries of population growth in the County from 1990 to 2000. The number, type, and distribution of Corps permitting actions were determined by searching the Corps project database for all projects within the analysis area that resulting in final permitting actions and then sorting that information by waterway, date, and type of action; the Corps database contains records of permits issued since the early 1970's. Permit records which contained insufficient information to precisely verify that the project was within the analysis area were not included in the analysis.

**Population Trends:** From a high of 3,603 people in 1910, the population of San Juan County remained basically the same through 1950 (3,245 people) due to various economic recessions and the Great Depression, and then fell to 1900 levels in 1960 (2,872 people). The decade of 1960 to 1970 began the period of growth for the County; the population rose by 3% per year and then rapidly increased between 1970 and 1980 when the population doubled from 3,856 to 7,838 (an average annual increase of 7.35%). Growth slowed between 1980 and 1990 to an average annual increase of 2.5%, but then increased again between 1990 and 2000 when the County's population increased from 10,035 to 14,077, an average annual increase of 3.44%. This represents the second highest rate of growth of all Washington counties during this period (Clark

County grew 3.8%). As of 2004, the County had a population of 15,100 people. San Juan, Orcas, and Lopez Islands are the largest in area and support the majority of those residents.

San Juan Island (and its adjacent census district) supported 5,049 people in 1990 and experienced a 36.5% increase in population over the subsequent decade to 6,894 people in 2000; this represents an average annual increase of 3.16%. This rate is similar, but slightly lower than the population growth rates experienced over the same decade of 1990 to 2000 on Orcas Island (3.68%) and Lopez Island (3.78%) and their associated census districts. Based on population projections prepared by the Washington State Office of Financial Management, the San Juan County Community Development and Planning Department recommended the County use a projected average annual growth rate of 2.2% for planning purposes between 2000 and 2020.

**Development, data from Corps permits:** Within the analysis area, the Corps has issued approximately 156 permits to date since 1972, the majority of which have been for piers and associated piles and floats (89 permits) (Table 1) and for buoys (23 permits) (Table 4).

The Corps has issued 11 permits for piers, pilings, and/or floats within the Westcott and Garrison Bay watershed since 1972; the majority (7 of 11) were issued in the 1980's, all but one within Garrison Bay; the only permit issued for Westcott and Garrison Bays in the 1990's was issued in 1994 for a joint use pier in Garrison Bay (see Table 2 for size of joint use pier). Two permits for joint use piers are currently under consideration, including the Inskeep application. This compares to 26 permits within Roche Harbor for piers, pilings, and/or floats, 17 permits within Mosquito Pass, 14 permits along Henry Island, 13 permits within Mitchell Bay to the south, and 8 permits along Spieden Channel to the north. Approximately two-thirds of these 87 permits were issued between 1980 and 1990, with the number of pier, piling, and/or float permits issued declining markedly since the year 2000 (Table 1).

Table 1. Number of Corps permits for piers, pilings, and/or floats issued since early 1970's

Waterway	Total # Pier, Pilings, and/or Floats Permits Issued	# Issued in 1970's	# Issued in 1980's	# Issued in 1990's	# Issued in 2000's	# applications currently pending
Garrison	10	3	6	1	0	2
Westcott	1	0	1	0	0	0
Roche Harbor	26	7	9	9	1	0
Mosquito Pass	17	3	6	6	2	1
Henry Island	14	0	3	8	3	0
Mitchell Bay	13	4	5	4	0	0
Spieden Channel	8	0	1	7	0	0
<b>TOTAL</b>	<b>89</b>	<b>17</b>	<b>31</b>	<b>35</b>	<b>6</b>	<b>3</b>

Roche Harbor and Mosquito Pass now support the greatest number of piers, pilings, and floats; Roche Harbor has gained seven to nine new structures in each decade between the 1970's and the 1990's, while Mosquito Pass has gained three to six new structures a decade in this same time period. Only one new structure has been permitted on Roche Harbor and two on Mosquito Pass since the year 2000. However, Roche Harbor has also experienced the expansion of the Roche Harbor Marina, with expansions permitted in 1973, 1975, 1994, and 1997 which has

dramatically increased the size and number of berths in the marina and increased boat traffic and associated impacts to marine water quality.

Of the 89 permits issued for piers, pilings, and/or floats, eight permits have been for joint use piers (Table 2). As these structures are designed to accommodate multiple vessels owned by several property owners, they are generally larger in size and contain more floats than a typical single-owner residential pier. In the past, structures were permitted with a greater number of pilings, generally preserved with creosote, and without transparent decking to allow light transmission below the structures. However, as new information has revealed the elevation and substrate preferences of spawning forage fish and the importance of eelgrass, there has been an increased focus on reducing the number of pilings and increasing their span over the upper intertidal zone, and on increasing the proportion of light permeable decking on all parts of the structure. The proposed Inskeep joint use pier serves 10 properties and, as such, is comparable in size to a joint use structure permitted in 1993 on Spieden Channel west of Lonesome Cove and to a pier permitted in 1999 (with 2000 modification) in Nelson Bay on Henry Island.

Table 2. Number of Corps permits for joint use piers issued since early 1970's and sizes of permitted structures.

Waterway	Total # joint use pier permits	Date of permit	# of joint users	# of pilings and material	Dimensions of pier	Dimensions of ramp	Dimensions of floats	Total Square feet of structure
Garrison Bay	1	1994	2-3	10, wood creosote	4'x130'	4'x30'	8'x40'	960 ft <sup>2</sup>
Garrison Bay		Pending	3	14, wood ACZA	4 sections @4'6"x16' +1 @8'x16'	3'x36'	8'x24'	716 ft <sup>2</sup>
Horseshoe Bay		Inskeep application	10	9, steel	6'x120'	4'x48'	8'x16', 8'x90', and 8'x40'	2,080 ft <sup>2</sup>
Roche Harbor	1	1992	9	34 + 3, 3pile dolphins, wood*	8'x195'	4'x45'	10'x80', 10'x168', + 4@ 6'x50'	5,420 ft <sup>2</sup>
Mitchell Bay	1	1992	4	12, wood*	8'x40'	6'x34'	8'x33' + 4 fingers @6.5'x40'	1,564 ft <sup>2</sup>
Spieden Channel	4	1993	9	10, + 1, 3pile dolphin, wood creosote	6'x47' +6'x49'	4'x48.5'	6'x23' + 2@10'x50'	1,908 ft <sup>2</sup>
Spieden Channel		1993	5	16, wood*	6'x110'	4.75'x50'	12'x44' + 2@8'x30'	1,905.5 ft <sup>2</sup>
Spieden Channel		1997 expand 1993 dock					Added 12'x32', 12'x36', and 8'x30' floats, with light permeable grating	Added 1,056 ft <sup>2</sup>
Spieden Channel		1998	3	18, wood*	6'x125'	3'x44'	8'x60'	1,362 ft <sup>2</sup>
Nelson Bay, Henry Isl.	1	1999 (mod. in 2000)	10	10, wood ACZA	8'x108'	6'x45'	2@8'x66' + 10'x28'	1,336 ft <sup>2</sup>

\*wood preservation method not recorded in file, but was likely creosote based on year

Since the early 1970's the Corps has also issued seven permits for repair or replacement of existing piers, pilings, or floats (Table 3), the majority of which have been issued since 2001 along Spieden Channel and within Westcott Bay. These permits generally involve replacement of pilings or floats, or the repair of a pier.

Table 3. Number of Corps permits for repair or replacement of existing piers, pilings, or floats issued since early 1970's

Waterway	Total # repair/replacement Permits	# in 1970's	# in 1980's	# in 1990's	# in 2000's	# applications pending
Westcott	2	0	0	2	0	0
Roche Harbor	1	0	0	0	1	0
Mosquito Pass	1	0	0	0	1	0
Henry Island	0	0	0	0	0	0
Mitchell Bay	0	0	0	0	0	0
Spieden Channel	3	0	0	0	3	1
<b>TOTAL</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>1</b>

In addition to piers, floats, pilings, and marinas, other shoreline related development within the analysis area includes the installation of marine railway systems to launch vessels from the shore. Applications for marine railway systems are less prevalent than applications for private or joint use piers; the Corps has issued four permits for boat ramps or launching rails, two within Garrison Bay (1986 and 1990) and two in Mosquito Pass (1988 and 1996).

The other popular option for mooring and launching private vessels is a mooring buoy. The Corps has issued 22 permits for mooring buoys and one permit for a speed limit buoy, all of which have been issued since 1988 (Table 4). Mooring buoys have increased in popularity since the 1990's and are most prevalent within the sheltered waters of Roche Harbor, Westcott/Garrison Bays, and Nelson Bay on Henry Island.

Table 4. Number of Corps permits for mooring and speed limit buoys issued since early 1970's

Waterway	Total # buoy Permits	# in 1970's	# in 1980's	# in 1990's	# in 2000's	# applications pending
Garrison	3	0	0	1	2	0
Westcott	1	0	0	0	1	0
Horseshoe Bay	0	0	0	0	0	2
Roche Harbor	7*	0	0	4	3	0
Mosquito Pass	2	0	1	1	0	0
Henry Island	4	0	0	0	4	0
Mitchell Bay	3	0	0	3	0	0
Spieden Channel	3	0	0	2	1	0
<b>TOTAL</b>	<b>23</b>	<b>0</b>	<b>1</b>	<b>11</b>	<b>11</b>	<b>2</b>

\*eight mooring buoys and one speed limit buoy

The Corps has also issued permits for a variety of other actions which can affect marine water quality and shoreline/nearshore habitat quality within the analysis area. Since 1996, the Corps has issued five permits associated with desalinization plant intake and outfall pipes, one in Roche Harbor (1996), one on Nelson Bay (Henry Island, 2002), and three at Mitchell Point (on Haro

Strait, 1996, 2002, 2002). These plants function to provide freshwater to island residents in areas where groundwater is too deep, or where wells have dried up or become contaminated with saltwater.

Since 1975, the Corps has issued six permits associated with underwater utility or telephone cables crossing beneath Roche Harbor/Mosquito Pass, two permits associated with floats for aquaculture (one in Westcott Bay 1978 and one in Open Bay on Henry Island in 1982), and two permits related to building construction/upkeep (one to replace log in a blockhouse in British Camp and one for a commercial building along Mosquito Pass).

Within the analysis area, the Corps has issued four permits which involved 'fill' related impacts within the analysis area. Two of these were permitted through individual permits and were fill associated with the installation of piers (1983 on Mosquito Pass and 1987 on Roche Harbor) which presumably implies the fill occurred to jurisdictional areas along the shoreline; the other two impacts were permitted through nationwide permits, one along Mitchell Bay in 1975 and one violation in 1996 in the uplands approximately 1.5 miles east of Westcott Bay within Section 19 of Township 36 North, Range 3 West.

***Development, data from aerial photos:*** Historic aerial photographs from 1977, 1983, 1995, and 2002 similarly document a progressive increase in upland land clearing and in shoreline development within the analysis area. The dominant types of development visible on aerial photos are land clearing within formerly forested areas for residential homes, the establishment of residential piers along the shoreline, and the creation of groundwater recharge ponds associated with residential development.

Between 1977 and 2002, the largest change to the landscape of the northern end of San Juan Island has been the progressive increase in forest clearing along the shoreline. For example, the stretch of shoreline between Lonesome Cove to the east and Davidson Head to the west supported two piers visible in 1977 aerial photos; by 2002, twelve piers are visible on the aerial photos. The area north of the airport has also experienced increased land clearing for residential development. The lands of the Bazalgette Point and White Point peninsulas were largely cleared of their forests by 1977 and have since converted to large parcels with low density residential development. In contrast, the large tidal emergent wetland at the head of Westcott Bay has not significantly changed in size since 1977, nor have the tracts of land surrounding it seen increased development.

The lands surrounding the Roche Harbor Resort have been converted to much higher density residential development, but with relatively little clearing of the forest. The progressive expansion of the Roche Harbor Marina is also evident based on aerial photos. Between 1977 and 2002, the marina expanded from a two small and one large finger pier in 1977 and 1983, to three small and one expanded finger pier in 1995, to its current configuration which adds five large finger piers onto the structures present in 1995. Each of these fingers can accommodate 20 or more vessels along each side. In contrast, the Snug Harbor Marina in Mitchell Bay remains in essentially the same configuration and size since 1977.

The lands south of Garrison Bay and north of Mitchell Bay had similarly been cleared of forests to a more open, agricultural landscape by 1977. That characteristic land use has persisted, but the number of groundwater recharge ponds in the area has dramatically increased between 1977 and 2002 to over a dozen ponds, potentially indicating a decline in the availability of freshwater from groundwater wells in the area.

In contrast, the forested landscape of Henry and Pearl Islands has changed little since 1977, except for small areas where single residences have been erected along the shoreline. The number of piers on Pearl Island has increased from four visible on the 1977 aerial photos, to six in 1983, to eleven visible in both 1995 and 2002. In 1983, Henry Island had 12 piers, mostly within Nelson Bay and along the shoreline to McCracken Point. By 1995, nine new piers had been added and by 2002, another ten piers were added to the island. The large tidal emergent wetland at the head of Nelson Bay has persisted in roughly the same dimensions since prior to 1977.

The consequences of these changes has been a change in the distribution and quality of native habitats (including shoreline and nearshore habitats) across the landscape due to agricultural- and forestry-related clearing of the land and subsequent conversion to residential and urbanized land uses. Many of the residences are located near or at the shoreline, and now support piers or buoys which foster increased access and use of the local waterways for boating activities.

**F. Existing Conditions.** The analysis area encompasses approximately 6,300 acres of land. The Westcott/Garrison Bay watershed retains large areas of undeveloped land, much of which is protected from future development. To the east and south of Garrison Bay, approximately 503 acres of land is protected from development by the British Camp portion of San Juan Island National Park, and within conservancy ownership in the Mitchell Hill (Young Mountain) area. These protected lands represent approximately 7.9% of the analysis area. The Roche Harbor watershed, in contrast, contains virtually no lands in public ownership or otherwise protected by conservancy designations. The Master Planned Resort lands represent approximately 5% of the analysis area lands and are slated for future commercial and residential development.

The west side of Garrison Bay, the northwestern end of Westcott Bay, most of the shoreline of Mosquito Pass (including the eastern portion of Henry Island), the shorelines of Pearl Island and Davidson Head, and the area north of Roche Harbor have tightly spaced, small shoreline lots designated as 'rural residential' land use. 'Rural residential' land use represents approximately 1,366 acres (21.7%) of the analysis area. Construction of boat launches, marine railways, and boat houses on these lots is subject to a conditional use permit from the County (as well as federal and state permits), but other boating facilities (such as piers) serving single-family residences and community docks are allowed (subject to local, state, and federal permits); however multiple use and expansion of existing facilities is preferred by the County over construction of new docks and piers (SJCC §18.50.190(C)). While many of these smaller lots currently have shoreline houses for permanent or seasonal occupation, they remain largely forested and undeveloped (relative to the degree of land clearing within lots of the designated urban growth areas and activity centers on the islands). With the exception of the lots on Davidson Head and Pearl Island which are densely developed with piers, the majority of the 'rural residential' shoreline lots within the analysis area do not have piers (based on 2002 aerial

photos). The shorelines of Westcott Bay, Mitchell Bay, Henry Island (primarily Nelson Bay), Mosquito Pass, and the northern end of San Juan Island historically (as previously described) and currently support the most piers.

The eastern shoreline of Westcott Bay, the western portion of Henry Island, the land along the northern edge of San Juan Island, and the interior lots along the western portion of Garrison Bay are larger, predominately forested lots designated as 'rural farm forest'; some of these lots sit back from the shoreline on the highlands. These lots are subject to the same restrictions as the 'rural residential' lots along the shoreline, but many of these lots do not include waterfront land suitable for direct shoreline access due to a steep shoreline. The shoreline of Mitchell Bay is similarly a combination of 'rural farm forest' and 'rural residential' lots, while the area east and south of Mitchell Bay is agricultural. Within the analysis area, approximately 3,098 acres of land are designated as 'rural farm forest' land use (49% of the analysis area) and 612 acres are designated as 'agricultural' (9.7%).

With the exception of the lots along the southern shore of Mitchell Bay, the majority of the 'rural farm forest' lots within the analysis area do not have piers (based on 2002 aerial photos). The 'rural farm forest' lots along Mitchell Bay, Henry Island (primarily Nelson Bay), and the northern end of San Juan Island currently support the most piers within this land use classification.

Although the transformation of the landscape within the analysis area appears to have been relatively gradual (compared to mainland rates of urbanization), it has resulted in impacts to marine water quality, including:

- a) Degradation and loss of wetlands, streams, and riparian zones from land conversion, forestry, and agricultural activities, resulting in reduced landscape capacity for storm water retention and filtering
- b) Increased impermeable surfaces of roads and buildings from land conversion, resulting in reduced water infiltration and reduced groundwater recharge
- c) Direct contamination by fecal coliform and fuel/oil discharges from recreational boating activities and from leaking or poorly placed septic systems associated with shoreline residential development.

Impacts to shoreline/nearshore habitat quality include:

- a) Erosion of shallow upland soils and shoreline bluffs from land conversion, forestry and agricultural activities, resulting in smothering the gravel spawning substrates required by forage fish
- b) Loss of shoreline vegetation and shading from land conversion, resulting in impacts to forage fish spawning and the loss of organic inputs into nearshore areas
- c) Shoreline armoring interrupting natural sediment erosion and redistribution processes, effecting eelgrass/macroalgae anchoring and forage fish spawning substrates
- d) Scouring of subtidal habitats from mooring buoys, pier floats, and boat anchors and shading of over water piers and marinas as recreational boating has increased.

The trend in marine water quality and shoreline/nearshore habitat quality within the analysis area is thus toward gradually increasing impacts, primarily due to impact pathways associated with

continued use of the nearshore habitats for residential development and recreational boating by current residents and visitors, as well as to anticipated increases in the population of the islands as a whole.

**G. Project impacts.** Impacts from the proposed pier can be categorized as: 1) direct, construction-related impacts to fish and wildlife, water quality, and shoreline/nearshore habitats, and 2) longer term impacts to these resources associated with use and maintenance of the structure.

Direct impacts to fish and wildlife center primarily on temporary disturbance to local benthic invertebrate and fish species during: vibratory installation of the steel pilings, movement of the construction staging barge, and construction of the pier, ramp, and float sections on the waters of Horseshoe Bay. Mobile benthic fish and invertebrate species would be expected to flee the area during construction, as would local terrestrial birds, shorebirds, and waterfowl. Benthic species unable to leave the immediate area of the pilings would likely be killed by the disturbance. However, benthic invertebrate species densely populate the sediments and associated habitats of Horseshoe Bay and thus would be expected to recolonize the area quickly after construction is completed.

Direct impacts to water quality during construction result primarily from the suspension of sediments during installation of the pilings and from wakes and prop wash associated with the construction-staging barge. Due to the tidal mixing of the waters, decreases in dissolved oxygen as a result of sediment disturbance and increased turbidity are not likely during construction. Minor erosion and disturbance to shoreline and beach sediments can be expected as the landward end of the pier is installed, as well as during vegetation clearing for the trail to the pier and during placement of geotextile fabric as the base of the trail (per Special Conditions i-k of this permit).

Longer term impacts to fish and wildlife species from the use and maintenance of the pier and floats center on shading and habitat displacement. Once constructed, the pilings could displace small areas of eelgrass and macroalgae attachment sites and forage fish spawning habitat. The pier, ramp, and floats will shade the substrate beneath the structure and thus prevent the establishment of eelgrass and macroalgae beneath them and similarly reduce the quality of the upper intertidal habitat for forage fish spawning. The anchoring mechanism for the floats also has the potential to displace eelgrass and macroalgae habitats if anchor chains are allowed to contact the bottom of the bay. These reductions in nearshore habitat quality have consequent impacts on juvenile salmonids and other fish and wildlife species which rely on eelgrass/macroalgae as spawning and nursery habitats. However, the extent and severity of these operational impacts have been minimized by the design features of the proposed pier, as detailed in Section H below.

Once the pier, ramp, and floats are constructed, the structure would become the first permanent over water structure within Horseshoe Bay. As such, it will aesthetically impact the view of neighboring property owners and limits to some extent the capacity for the public to freely navigate within the bay unhindered by any shoreline structures. However, the extent and severity of the impact of the piers existence is minimized by its nature as a joint use structure,

which eliminates the proliferation of pier along the western and southern shorelines of the bay. In addition, the design features of the pier, principally its height, materials, and lighting, similarly reduces the impact of its existence on public use of these waters (as detailed in Section H below).

**H. Mitigation/impact reduction measures of the proposed project.** In order to reduce direct and indirect cumulative impacts during both construction and operation of the structure, the following mitigation measures have been incorporated into the design of the pier, ramp, floats, and pilings:

1. Joint use, reduces aesthetic and cumulative impacts of multiple piers within Horseshoe Bay and protects 2,100 feet of shoreline from additional over water structures
2. North/south orientation of pier and floats, reduces direct shading impacts to eelgrass/macroalgae over the lifespan of the structure
3. Grating of pier and floats, reduces shading impacts on eelgrass, macroalgae, and forage fish spawning habitat
4. Reduced number of pilings, reduces sediment impacts during construction, reduces eelgrass/macroalgae habitat displacement, and reduces impacts to upper intertidal forage fish spawning habitat over the lifespan of the structure
5. Increased spacing of pilings to span upper intertidal zone; reduces sediment, eelgrass/macroalgae impacts, reduces impacts to forage fish spawning habitat
6. Vibratory installation of steel pilings, reduces sediment and water quality impacts during construction
7. Elevation of pier over the substrate, reduces impacts on forage fish spawning habitat and reduces navigation impacts to hand-powered vessels
8. Seaflex rods and helix anchors, reduces scour impacts to substrate and eelgrass/macroalgae habitat over the lifespan of the structure
9. Lighting the pier reduces operational impacts to navigation.

**I. Forseeable future projects.** Foreseeable future projects include other proposed projects within waters of the United States subject to permitting by the Corps, the specifically anticipated expansion of the Roche Harbor master planned resort, and the continued trend toward increasing residential development within the analysis area, all considered in the context of expected changes in population within San Juan County.

***Other Proposed Projects Subject to Corps Permit:*** The Corps searched our electronic database of permit inquiries, applications, and permits to assess the number and proposed distribution of future projects which could impact resources within the analysis area that are vulnerable to cumulative impacts. Applications currently pending review and decisions include: replacement of two existing pilings along Spieden Channel, two new piers (Garrison Bay and Mosquito Pass), two new mooring buoys in Horseshoe Bay, one marine rail system on Westcott Bay, and one application for intake and outfall pipes associated with a desalinization plant on Mosquito Pass. The proposed pier on Garrison Bay is designed as a joint-use, 135-foot long structure that would serve three residential lots. The proposed pier on Mosquito Pass is for a single residence.

The Corps has concerns that the two mooring buoys currently proposed for Horseshoe Bay could impact navigation when considered in conjunction with the Inskeep pier. The Corps is also

concerned that buoys could impact subtidal resources, particularly eelgrass/macroalgae, which are believed to be more prevalent in the eastern portion of the bay where these buoys are proposed. Cumulative impacts of these proposals will be analyzed as part of the on-going Corps permitting process for these applications.

***Roche Harbor Master Planned Resort:*** Much of the Roche Harbor watershed (326 acres) has been designated as a Master Planned Resort under the County's 1998 Comprehensive Plan. Redevelopment of the area into a master planned resort or village is expected to result in increased density of residential and commercial development within the core of the resort, including a theatre, a new hotel, additional condominiums, single family homes, apartments above street-front commercial space, and a trail ultimately leading to British Camp. The intent is to create a larger year-round population and more services within the resort area. The Roche Harbor Resort currently has an approved sewage treatment plant and a permit to discharge treated wastewater in Roche Harbor.

Compared to other watersheds, a significant portion of the Roche Harbor watershed is already impervious or nearly impervious. Runoff from the impervious area is not treated before discharging to Roche Harbor. The remaining land in the watershed (land not within the Master Planned Resort boundary) has a development potential of one-half to 2 acre per unit. Only part of the area is served by sewer at this time. Full build-out of the 326-acres of the Roche Harbor Master Planned Resort is thus anticipated to result in increased density of residential development and land conversion activities within the resort footprint; this would occur within an already relatively urbanized watershed (compared to the adjacent Westcott/Garrison Bay watershed).

***Additional Residential and Commercial Development:*** Of the ten properties covered under the Joint Use Agreement for the proposed pier, only one property (Lot #69) currently supports a residential structure (a log cabin predating 1954). Construction of the proposed pier could increase the likelihood of additional residential structures on the other nine lots by providing convenient access to the water for these lots. However, the Corps has no indications at this time that additional residential structures are planned in the reasonably foreseeable future.

All or portions of the larger 'rural farm forest' lots on Henry Island, along Spieden Channel, and along the northeastern end of Westcott Bay could be cleared in the future to support logging and/or additional residential development, including proposals for additional piers on lots with appropriate shoreline grade and access. The 'rural farm forest' lots between Garrison and Mitchell Bays could likewise be cleared for residential development, although they do not have shoreline access and thus would not result in additional applications for piers or mooring buoys. Similarly, the 'rural residential' lots along the majority of Mosquito Pass, the eastern side of Garrison Bay, and the northern end of Roche Harbor, Pearl Island, and Davidson Head are most likely to support additional piers and/or mooring buoys in the future as these lots have shoreline frontage and are zoned to accommodate over water structures. However, the Corps has no indications at this time that additional over water structures or impacts to waters of the United States are planned in reasonably foreseeable future, except for those applications previously noted.

Continued use of the agricultural lands for grazing and small scale farming is likely to continue into the future as these flatter lands do not support timber and do not have shoreline access. The popularity and continued use of the British Camp unit of San Juan Island National Park for passive recreation is similarly likely to continue in the future, resulting in the continuation of heavy seasonal vessel traffic into the analysis area to access the Park via Westcott and Garrison Bays.

**Population Growth:** Over the next 15 years, the population of both San Juan County and San Juan Island can be expected to continue to gradually increase at a rate similar to that seen in the 1980's to 1990's (2.5%). The San Juan County Community Development and Planning Department has recommended the County use a projected average annual growth rate of 2.2% for planning purposes between 2000 and 2020. This indicates the expectation is for slower future growth than that experienced in the most recent decade of 1990 to 2000 (3.44%).

The San Juan County Community Development and Planning Department expects a slower rate of growth in the future in part because of a declining supply of vacant parcels available for development in rural areas of the County. The rural areas of the County, on which the analysis area is part, are currently where most of the County's population lives.

Thus, much of the Westcott/Garrison Bay and Roche Harbor watersheds could experience additional shoreline development, as well as additional upland development in the future, which could impact marine water quality and shoreline/nearshore habitat quality through the mechanisms outlined above via the pathways previously described in Section C. The degree of those impacts and the rate at which they occur in the future may be moderated to some extent on San Juan Island by the desire of local politicians and planners, as well as residents and visitors, to maintain the aesthetic of a rural, largely 'undeveloped' landscape as that is what traditionally, and currently, attracts people to the San Juan Islands.

**J. Conclusions.** The proposed joint use pier would have short-term, construction-related impacts primarily related to the temporary disturbance of local benthic invertebrate and fish species and a temporary decline in water quality at the construction site. The proposed pier would also have longer-term impacts related to the existence and use of the pier. These longer term impacts relate primarily to the displacement and degradation of eelgrass/macroalgae habitat, forage fish spawning habitat, and the consequent effect on valuable higher-order fish and wildlife species.

The size and design of the proposed pier and its anticipated short- and long-term impacts are similar in magnitude to the eight other joint use piers permitted by the Corps in the analysis area within the past 35 years. In relationship to both past impacts on the resources of concern and to anticipated impacts from reasonably foreseeable future projects, the impacts associated with this proposal are minimal and of minor scale due specifically to the impact reduction measures incorporated into the design and construction of the structure to avoid and minimize the effect of the structure on the natural and human environment.

While the proposed joint use pier in Horseshoe Bay does not reverse past adverse impacts which have occurred within the analysis area, the impact reduction measures incorporated into the

proposed pier design limit the magnitude of its effects on marine water quality and shoreline/nearshore habitat quality. The intensity of effects of the proposed structure is largely limited in duration to the period of active construction and has been reduced through the use of careful placement, orientation, and materials. The specific incorporation of elevation, surface grating, and helix anchors/Seaflex rods into the design of the pier, ramp, floats, and anchors reduce the longer term, more functional impacts of such a structure. It is specifically these impacts which have the greatest potential to accumulate within the analysis area and which span the lifespan of a pier.

Although there is local significance to the structure, due to its proximity to neighboring properties which are not allowed to support piers and to the heavily used entrance into Westcott and Garrison Bays, the joint use aspect of the proposal reduces this local significance by limiting the proliferation of other such structures along a large portion of the Horseshoe Bay shoreline. The joint use aspect of this structure is preferred over multiple single piers by the local jurisdiction (San Juan County) specifically to limit the local proliferation of over water structures along the County's shorelines and to preserve shoreline/nearshore habitat quality, one of the resources of greatest concern within the analysis area.

The Corps finds it reasonably unlikely that the gradually declining trend in marine water quality and shoreline/nearshore habitat quality would be greatly accelerated by construction of this pier. Rather, construction and use of this joint use structure is consistent with the trend of gradually increasing shoreline development and is consistent in its design and scope with the types of over water structures which have been permitted and which are being proposed and constructed in the project impact zone. The impact reduction measures incorporated into the design minimize the likelihood of this project significantly contributing to adverse cumulative impacts.

Therefore, I have determined that the cumulative and secondary impacts within the analysis area from construction and use of the pier structure are not contrary to the public interest.

6.1.11. Navigation. The proposed project would facilitate recreational access to the waters of Horseshoe Bay for private vessels associated with the ten properties bound by the Joint Use Agreement. Therefore, the project would increase the number of vessels and use of the immediate area of the proposal, as well as use of the broader waters of the San Juan Islands.

While navigating the main channel into Westcott and Garrison Bays is challenging due to the limited width, strong tidal currents, and the number and speed of local and visiting vessels which utilize this channel, the addition of the proposed pier will not further constrict vessel traffic or otherwise further complicate navigation within this channel. Vessels moored along the proposed floats would be at least 150 to 200 feet from the southern edge of the main channel utilized by vessels for navigation into Westcott and Garrison Bays. This distance between the pier and its moored vessels and the navigable portion of the entrance channel precludes significant constrictions of vessel traffic due to the pier. The design, orientation, and location of the pier do not limit the public's navigational access or recreational use of these waters for temporary mooring of vessels within the central and eastern portions of Horseshoe Bay.

The elevation of the pier above the substrate allows for clearance beneath the pier all but the highest tides of the year for kayakers desiring to maintain a paddling route parallel to the shoreline. Paddling around the outer end of the floats would be an inconvenience compared to existing conditions, but would not negatively impact public navigation or create an unsafe condition for kayakers due to the 150 to 200 foot distance between the end of the outer float and the outer edge of the main channel.

The proposed structure is thus not expected to have significant negative impacts on navigation. Therefore, I have determined that the impacts to navigation are not contrary to the public interest.

6.1.12. Marine Sanctuaries. No marine sanctuaries will be affected by this work.

6.1.13. All other evaluation factors. No adverse effects to economics, aesthetics, general environmental concerns, shoreline erosion and accretion, recreation, water supply and conservation, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, or the general needs of the people have been identified.

6.2. Conclusion. Based on the discussion above, I conclude this assessment has not identified any potentially significant effects to the quality of the human environment that would accrue from any actions taken under the terms of this permit and an Environmental Impact Statement is not required.

## 7. Special Conditions.

- a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.
- b. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

The following conditions have been added to ensure compliance with the ESA and to minimize fish and wildlife impacts:

- c. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the original Jen-Jay Diving Biological Evaluation dated June 2000, as amended in March 2001 and May 2005, in their entirety. The U.S. Fish and Wildlife Service (USFWS) concurred with a finding of "may affect, not likely to adversely affect" based on the March 2001 document for species under their jurisdiction on 16 October 2001 (USFWS Reference Number: 1-3-01-I-1905). The National Marine Fisheries Service (NMFS) concurred with a finding of "may affect, not likely to

adversely affect” based on these documents on 17 September 2001 and on 22 July 2005 (NMFS Reference Number: WSB-01-296 and 2005/04018). Both agencies will be informed of this permit issuance. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS/NMFS is the appropriate authority to determine compliance with ESA.

- d. The pier and floats shall be designed to provide, at a minimum, a ten foot buffer between the floats and eelgrass habitat. If this cannot occur, the applicant will contact the Corps and obtain the appropriate permit modifications before construction can occur.
- e. In order to protect Puget Sound Chinook, Pacific herring, and bull trout, the permittee may conduct the authorized activities from July 16 through January 14 in any year this permit is valid, subject to the results of the mandatory surf smelt spawning survey as described in special condition ‘f’ below. The permittee shall not conduct work authorized by this permit from January 15 through July 15 in any year this permit is valid
- f. Surf smelt may be spawning in the project area during the allowed work window. Prior to construction, the applicant must have a qualified biologist confirm, in writing, that no surf smelt are spawning in the area. If a Washington Department of Fish and Wildlife (WDFW) Habitat Biologist has volunteered to conduct a survey as part of the Hydraulic Project Approval, this survey may be submitted to the U.S. Army Corps of Engineers (Corps). The letter or memorandum from the qualified biologist or the WDFW Habitat Biologist must include the date of the inspection, the surf smelt findings, and must be provided to the Corps, Seattle District, Regulatory Branch, FAX (206) 764-6602, prior to construction. Address the letter or memorandum to Rozwin Liera and include the reference number 199900663. If the qualified biologist or WDFW Habitat Biologist confirms that no surf smelt are spawning in the project area, the permittee has one week from the date of the inspection to complete all work below mean high water
- g. To insure that light transmission is not impacted, grating must not be covered with or blocked by any objects, such as, but not limited to, buildings, planters, storage sheds or boxes, nets, carpets, boards, tables, lawn furniture, or utility conduits or boxes.
- h. A copy of this permit, permit drawings, and the Joint Use Agreement shall be recorded with the Registrar of Deeds and proof provided to the Corps, within 60 days after permit issuance, to ensure that subsequent property owners are aware of the construction, use, and mitigation requirements. As this authorization is for a joint-use pier, all co-applicants have voluntarily agreed to build no additional over-water structures on their property, except for the maintenance or modification of the joint-use over-water structure. This voluntary agreement and the documentation described above must be recorded on the deeds of all involved properties.

The following conditions have been added to ensure compliance with Section 106 of the National Historic Preservation Act:

- i. No ground disturbance can occur along any of the trail areas, including, but not limited to leveling or grading with shovels, rakes, hoes, hand tools or machines.
- j. No vegetation located within the proposed trail area shall be pulled out by hand; vegetation may be cut or trimmed prior to being covered with a geotextile fabric to form the base of the trails.
- k. The geotextile fabric for the trail areas must be installed and layered over with clean fill material to reduce disturbance to buried archeological deposits. The clean fill material must be obtained from an existing cleared area.
- l. A monitoring report photographically documenting pre and post-project conditions relative to construction of the trails and the pier shall be submitted to the Corps within 60 days of the trail construction completion. The intent of the report is to document compliance with special conditions 'i' through 'k' above. The report shall include original or color copies of labeled and dated photos taken from the shore toward the pier location under pre- and post-project conditions and photos taken from shore toward where the upland trail crosses the buried archeological deposit under pre- and post-project conditions.
- m. Should archaeological materials (e.g. shell midden, faunal remains, stone tools) or human remains be observed during project activities, all work in the immediate vicinity shall stop, and the area shall be secured. The Washington State Office of Archaeology and Historic Preservation (360-586-3065), the Lummi Nation Tribal Historic Preservation Officer (LNTTHPO) (360-384-2298), and the Corps, Seattle District, Regulatory Branch (206-764-3495) shall be contacted immediately in order to help assess the situation and determine how to preserve the resource(s). In the event that human remains are encountered, the LNTTHPO will contact the appropriate tribal repatriation specialists. Compliance with all applicable laws pertaining to archaeological resources is required.

8. Determinations. I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application, as well as the stated views of other interested Federal and non-Federal agencies and the concerned public, relative to the work in waters of the United States.

I have made the following determinations and findings:

8.1. Finding of No Significant Impact. Performance of this work will not significantly affect the quality of the human environment. Further, I have determined that the issuance of this particular permit is a Federal action not having a significant impact on the environment. I have thus concluded that the preparation of a formal Environmental Impact Statement is not required.

8.2. Public Hearing. No public hearing is necessary for this proposal because the location, orientation, and nature of the proposed pier did not change substantially from that subjected to


public review during numerous hearings conducted on San Juan Island as part of the review and appeal process for the Shoreline Substantial Development Permit (SSDP); the administrative record for this project contains the public comments provided during those public hearings, as well as the comments submitted specifically to the Corps in response to the Public Notice.

8.3. Clean Air Act. The proposed project has been analyzed for conformity with the regulations implementing Section 176(c) of the Clean Air Act. I have determined that the activities proposed under this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this project.

8.4. Public Interest Determination. The work is consistent with national policy, statutes, and administrative directives. I find that issuance of a specially conditioned Department of the Army permit for this work is based upon a thorough analysis of the various evaluation factors and determinations that have been identified herein. The proposed work is not contrary to the public interest. I have determined that issuance of a Department of the Army permit with special conditions is the course of action available to the Corps that best achieves the general public interest.

Date

10/19/05

  
DEBRA M. LEWIS  
Colonel, Corps of Engineers  
District Engineer